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from your president's pen

To my Colleagues:

Probably all of us have thought seriously about the problem of "adequate" dental service for children. A great many hours and a great deal of printed matter have been consumed in an attempt to define "adequate," to say nothing about the time spent in developing and testing treatment programs. Such efforts will need to be continued in order to develop workable programs at community levels.

Each of us can, however, contribute materially to adequate dental care for children. I believe that before we can ask others to include more children in their practices, we must do so in our own practices. Before we can ask that other dentists render the best possible dental service for their child patients as well as for their adult patients, our own consciences must be clear in that regard as it concerns us.

If dentists would use knowledge now available and if the public would pay heed to their well-meant suggestions about the prevention of oral disease, our problems of dental care for children would be very much simplified. We are prone to rationalize about those things which we cannot properly solve in a more sensible fashion, and I am convinced that the suggestion that the primary teeth are unimportant as so many dentists still maintain is pure rationalization. It is incomprehensible that anyone who gives the problem any thought at all could so believe. Inability to cope with the child and lack of courage to ask an adequate fee are more representative of the reasons.

We cannot make people brush their teeth, nor can we force them to refrain from highly sweetened foods, but we can tell them about these things. We can explain the simple psychology of the parents setting a good example for their children; and the members of the American Society of Dentistry for Children can apply that same psychology to their own lives and set good examples for all other dentists to follow.

When you and I are satisfied that we are doing all that we can to help individual children, then we can speak with clear consciences from the public rostrum and urge more programs for better child dental health.

I am looking forward to several months of enjoyment as President of the American Society of Dentistry for Children and I strongly urge each of you to make this year your best contribution to dentistry for children.

GEORGE W. TEUSCHER

The Effects of Premature Loss of Primary Teeth and Sequence of Eruption of Permanent Teeth on Malocclusion

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Editor's note:

Sid Kronfeld, author of the accompanying article, is an assistant professor of pedodontics at his Alma Mater, New York University College of Dentistry. The material was prepared with the cooperation of Doctor Samuel Hemley, of N. Y. U., and should be carefully read to be appreciated, for it presents new evidence to support the practice of prompt space maintenance in the changing dentition.

You may remember that Sid Kronfeld, et al., authored an article on pedodontics for Collier's magazine some years ago, for which he received many fine compliments. He is quite a fellow—likes his Scotch with soda and his stories with visual interpretations! We differ with him on several things, but like the fellow for what he is—a good dentist interested in dentistry for children, and our friend.

A.E.S.

INTRODUCTION

In any discussion or study of the problem of space maintenance, several factors seem to be relevant. During the course of a clinical study of a large group of children over a period of fourteen years, some of these factors appeared in the records. This is a report of the data thus observed and recorded. The findings are not conclusive, but rather are a contribution of data collected, together with some observations thereon.

CLINICAL MATERIAL

Four hundred children were examined and treated in the Research Division of the Department of Preventive Dentistry at New York University, College of Dentistry, during a period of fourteen years. All the children were entered in the clinical study before age four. The complete examination of these patients included, among other items, full mouth radiographic series at least every six months, and study casts at least annually throughout the periods of the primary dentition, the mixed dentition, and the early years of the complete permanent dentition. These diagnostic records (x-rays, study casts, and the results of the clinical examinations) are the source material of this study.

Factors Noted, Recorded, Charted for Statistical Analysis, and Studied

1. Shedding time of primary teeth.
2. Eruption time of succedaneous teeth.
3. Order of eruption of succedaneous teeth.
4. Time intervals between loss of primary teeth and eruption of succedaneous teeth.
5. Incidence of premature loss of primary teeth.
6. Incidence of over-retention of primary teeth.
7. Apparent effect of any of these factors on the incidence of malocclusion.

8. Effect of the use of space maintainers on the incidence of malocclusion.

Definitions

These are the definitions and criteria that were used in collecting and recording the data for this study.

1. *Shedding time**: that time at which a primary tooth was lost, or at which the roots had been completely resorbed and the tooth so mobile and insecure that it could be picked out of the soft tissues without the aid of a forceps or any other instrument.

2. *Eruption time†:* that time at which the tip of the incisal edge or cusp of a succedaneous tooth presented itself through the soft tissues.

3. *Premature loss:* a primary tooth was considered to be prematurely lost when it was missing at least six months prior to the loss of homologous teeth in the same mouth.

4. *Over-retention:* a primary tooth was considered to be over-retained when it showed insufficient root resorption for normal shedding six months after the loss of the homologous tooth in the same mouth.

Interpretation of Data

Shedding Time of Primary Teeth and Eruption Time of Succedaneous Teeth

The findings of this study are at variance with those of others which have been published previously. Several explanations are possible for these differences which may be more apparent than real. Most studies have been made by taking a cross section of a number of different children, rather than the same children over a period of years. This is a vertical rather than a horizontal study. Eruption time may have been taken to mean that time when the tooth was completely in occlusion rather than when first presented through the soft tissues. Some studies were made on very small groups of children, others have been made on a small number of autopsy cases.

A chart of the normal shedding times of teeth and eruption times of the succedaneous teeth is presented in Figure 1. Comparison of this chart with previously published charts reveals that:

1. The average ages of shedding of the primary teeth and eruption of the succeeding teeth is earlier than has been previously reported (1, 2, 4, 5).

2. The succedaneous teeth erupt, on the average, within four months of the shedding of the preceding primary teeth. Homologous teeth on opposite sides of the same jaw usually were shed, and their succeeding teeth erupted, on the average, within four months of each other. There were, however, two exceptions noted. (Figure 1C). In both male and female, the lower right first primary molars were shed and the first bicuspids erupted seven months earlier than the corresponding teeth on the left side. The upper left primary canine in the female, was shed, and the permanent canine erupted six months before the upper right canine.

3. As has been noted by many other observers, the average shedding and eruption of the teeth in the female were found to occur before that in the male (2, 5). The exceptions noted were the lower first bicuspids, the lower right second bicuspids, and the upper left

* Shedding: in dentistry, the natural process of resorption of the roots and the subsequent loss of the deciduous (primary) teeth. (New Gould Medical Dictionary, 1st Edition.)

† Eruption: the advancement of a tooth from its crypt through surrounding tissues to its normal position in the dental arch. (A Dictionary of Dental Science & Arts, Dunning & Davenport.)

second bicuspids, which erupted at the same time in both sexes.

position. 70% of the teeth in malposition had erupted within the average limits of

FIG. 1. Shedding and Eruption Time of Teeth

	FEMALE				MALE			
	Shedding		Eruption		Shedding		Eruption	
	Right	Left	Right	Left	Right	Left	Right	Left
	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.
Upper								
Central incisor	6-7 ± 5.4	6-5 ± 5.4	6-10 ± 6.1	6-10 ± 6.1	6-9 ± 4.6	6-9 ± 4.5	6-10 ± 5.2	7-1 ± 4.0
Lateral incisor	7-6 ± 5.5	7-4 ± 6.8	7-10 ± 6.9	7-7 ± 6.0	7-8 ± 6.5	7-8 ± 5.9	8-0 ± 5.6	8-2 ± 5.2
Canine	10-8 ± 9.1	10-3 ± 8.0	10-11 ± 9.0	10-5 ± 7.0	10-6 ± 11.3	10-6 ± 7.2	11-0 ± 11.0	10-11 ± 8.0
1st primary molar	9-9 ± 6.9	9-11 ± 7.0	10-0 ± 7.8	10-0 ± 7.9	10-2 ± 9.0	10-1 ± 6.0	10-3 ± 8.0	10-3 ± 6.4
2nd primary molar	10-4 ± 7.0	10-7 ± 7.7	10-8 ± 9.7	10-9 ± 8.2	10-11 ± 5.8	10-9 ± 7.8	11-0 ± 7.0	10-9 ± 7.7
Lower								
Central incisor	6-0 ± 4.4	6-0 ± 5.0	6-0 ± 5.7	6-1 ± 5.0	6-3 ± 5.1	6-3 ± 4.4	6-6 ± 4.9	6-4 ± 3.9
Lateral incisor	7-1 ± 5.5	6-11 ± 5.9	7-2 ± 5.1	7-3 ± 5.9	7-1 ± 4.6	7-2 ± 5.4	7-4 ± 4.6	7-5 ± 5.2
Canine	9-1 ± 7.2	9-5 ± 8.1	9-4 ± 7.9	9-6 ± 9.0	10-5 ± 6.8	10-3 ± 8.9	10-5 ± 6.4	10-5 ± 7.1
1st primary molar	9-9 ± 8.0	10-5 ± 7.8	9-11 ± 3.4	10-6 ± 6.6	9-8 ± 10.5	10-5 ± 7.0	9-11 ± 8.2	10-6 ± 7.6
2nd primary molar	10-8 ± 3.1	10-9 ± 6.5	10-10 ± 8.5	10-10 ± 6.5	10-10 ± 8.8	10-10 ± 6.9	10-10 ± 8.0	11-0 ± 7.6

Average age of shedding and eruption in years and months
Standard and deviation in months

FIG. 1C. Shedding and Eruption Time of Teeth

	FEMALE				MALE			
	Shedding		Eruption		Shedding		Eruption	
	Right	Left	Right	Left	Right	Left	Right	Left
	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.	Yrs. & mos. ± mos.
Upper								
Canine	10-8 ± 9.1	10-3 ± 8.0	10-11 ± 9.0	10-5 ± 7.0	10-6 ± 11.3	10-6 ± 7.2	11-0 ± 11.0	10-11 ± 3.0
Lower								
First primary molar	9-9 ± 8.0	10-5 ± 7.8	9-11 ± 3.4	10-6 ± 6.6	9-8 ± 10.5	10-5 ± 7.0	9-11 ± 8.2	10-6 ± 7.6

Average age of shedding and eruption in years and months
Stand deviation in months

Effect of Interval of Time between Shedding and Eruption on Malocclusion

The interval of time between shedding of the primary teeth and eruption of the succedaneous teeth in relation to malocclusion was studied (Figures 2, 2a, 3). 70% of the total number of teeth showed average intervals of no more than four months. There were 156 teeth in malinterval time for that tooth. A longer than average interval did not necessarily increase the incidence of malocclusion.

Influence of the Order of Eruption of the Permanent Teeth on the Incidence of Malposition of the Permanent Teeth

It had been suggested that the degree of adherence to a normal rhythm of shed-

ding of primary teeth and eruption of permanent successors might be of more importance than the actual time intervals between shedding and eruption. Therefore, a table of eruption times, (Figure 1), was made and the order of eruption of the various teeth was determined (Figure 4). These orders of eruption fell into categories, which were studied to determine which orders of eruption were most likely to be followed by the lowest incidence of malposition of the permanent canines and/or bicuspids.

The incisor teeth were not included in this phase of the study because the order of their eruption is fairly constant, and

FIG. 2. Interval

		FEMALE						MALE					
		Right		Left		Right + Left		Right		Left		Right + Left	
		No. of teeth	Months	No. of teeth	Months	No. of teeth	Months	No. of teeth	Months	No. of teeth	Months	No. of teeth	Months
Upper													
Central incisor	NR	75	2.82	77	2.51	152	2.66	70	2.61	63	2.88	133	2.90
	PL	3	2.66	2	6.0	5	4.33	6	2.16	11	12.55	17	8.88
Lateral incisor	NR	65	3.81	59	3.74	124	3.77	61	4.65	59	4.32	120	4.49
	PL	3	7.66	2	10.0	5	8.83	2	14.0	3	5.66	5	9.0
Canine	NR	28	4.24	29	4.58	57	4.41	25	5.32	30	5.10	55	5.17
	PL	2	1.33	1	36.0	3	18.66	1	12.0	1	0	2	6.0
1st primary molar	NR	38	2.05	38	1.57	76	1.81	32	2.21	31	2.45	63	2.33
	PL	18	16.55	13	13.92	31	15.23	14	20.21	11	8.08	25	14.88
2nd primary molar	NR	29	2.79	28	3.32	57	3.05	24	1.25	24	2.37	48	1.81
	PL	15	11.20	13	13.48	28	12.34	0	8.44	14	21.78	23	15.11
Lower													
Central incisor	NR	78	1.17	81	1.38	159	1.27	82	1.42	83	1.55	165	1.49
	PL	3	2.0	2	2.5	5	2.25	5	2.80	5	.80	10	1.80
Lateral incisor	NR	72	2.04	70	2.31	142	2.17	66	2.03	66	2.68	131	2.54
	PL	0	0	0	0	0	0	1	0	1	0	2	0
Canine	NR	44	1.86	47	2.95	91	1.90	38	2.92	39	3.23	77	3.07
	PL	4	5.0	2	1	6	3.0	0	0	0	0	0	0
1st primary molar	NR	47	2.53	39	3.17	86	2.85	35	3.25	31	1.54	66	2.45
	PL	9	20.0	15	27.53	24	23.76	9	37.0	14	30.71	23	29.26
2nd primary molar	NR	26	4.73	26	1.76	52	3.25	26	1.57	19	1.94	45	1.74
	PL	13	20.46	13	23.61	26	22.03	10	21.60	13	26.53	23	24.36

NR—Interval between shedding and eruption of normally resorbed primary teeth and their successors
PL—Interval between shedding and eruption of prematurely lost primary teeth and their successors

FIG. 2A. Interval

Female and Male Combined

		RIGHT		LEFT		RIGHT + LEFT	
		Number of teeth	Interval in months	Number of teeth	Interval in months	Number of teeth	Interval in months
Upper							
Central incisor	NR	145	2.71	140	2.69	285	2.70
	PL	9	2.41	13	9.27	22	5.84
Lateral incisor	NR	126	4.23	118	4.03	244	4.13
	PL	5	10.83	5	7.83	10	9.33
Canine	NR	53	4.78	59	4.84	112	4.83
	PL	3	6.66	2	20.83	5	12.33
1st primary molar	NR	70	2.13	69	2.01	139	2.07
	PL	32	18.38	24	11.00	56	14.69
2nd primary molar	NR	53	2.02	52	2.84	105	2.43
	PL	24	9.82	27	18.13	51	13.97
Lower							
Central incisor	NR	160	1.29	164	1.47	324	1.38
	PL	8	2.40	7	1.65	15	2.02
Lateral incisor	NR	138	2.03	136	2.49	273	2.35
	PL	1	0.0	1	0.0	2	0.0
Canine	NR	82	2.31	86	3.08	168	2.48
	PL	4	.93	2	0.5	6	1.50
1st primary molar	NR	82	2.89	70	2.35	152	2.65
	PL	18	23.50	29	29.12	47	26.51
2nd primary molar	NR	52	3.10	45	1.85	97	2.49
	PL	23	21.03	26	25.07	49	23.19

NR—Interval between shedding and eruption of normally resorbed primary teeth and their successors.

PL—Interval between shedding and eruption of prematurely lost primary teeth and their successors.

their inclusion would do no more than confuse the picture due to the ensuing tremendous increase in the number of shedding of primary canines or primary molars, and all cases showing malposition of the permanent teeth, other than those

FIG. 3. Relationship of Interval of Time between Shedding and Eruption on Incidence of Malocclusion

	TOTAL NUMBER OF BICUSPIDS WITH LONG INTERVAL			TOTAL NUMBER OF BICUSPIDS IN MALPOSITION WITH LONG INTERVAL			TOTAL NUMBER OF BICUSPIDS STUDIED			TOTAL NUMBER OF BICUSPIDS IN MALPOSITION		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Upper												
First bicuspid	9	12	21	2	2	4	107	88	195	6	8	14
Second bicuspid	7	14	21	5	3	8	85	71	156	9	4	13
Lower												
First bicuspid	16	19	35	2	4	6	110	89	199	10	4	14
Second bicuspid	15	9	24	6	3	9	78	68	146	11	4	15

FIG. 4. Order of Eruption of Canines and Bicuspids

Upper

ALL ORDERS	ORDER 4-3-5		ORDER 4-5-3		ORDER 4-3 & 5			8 ADDITIONAL ORDERS
Total cases	Total cases	Number in malocclusion	Total cases	Number in malocclusion	Total cases	Number in malocclusion		Total cases
86	25	5	17	5	13	7		31

Lower

ALL ORDERS	ORDER 3-4-5		ORDER 4-3-5		ORDER 3 & 4-5		ORDER 4 & 5-3		11 ADDITIONAL ORDERS
Total cases	Total cases	Number in malocclusion	Total cases	Number in malocclusion	Total cases	Number in malocclusion	Total cases	Number in malocclusirn	Total cases
107	47	11	20	2	15	4	5	0	20

3 = Canine
4 = First Bicuspid
5 = Second Bicuspid

possible combinations of orders of eruption for all the teeth.

The upper and lower jaws were considered separately, because of the differences in the eruption times as noted in Figure 1. The cases included in this phase of the study were selected to exclude all those cases showing abnormalities of which could be attributed to eruption of the permanent canines or bicuspids.*

There were 86 cases in the upper jaw,

* Some of the other causes of malocclusion are: missing permanent teeth; unexplained early resorption of part or all of the root structure of a primary tooth; ankylosis of a primary and/or permanent tooth; and habits.

and 107 cases in the lower jaw selected for this phase of the study. Of these, 30 cases in the upper jaw showed malposition of the permanent canine or bicuspids, and 23 cases in the lower jaw showed malposition of these teeth (Figure 4).

The most frequent order of eruption in the upper jaw was:

first bicuspid, canine, second bicuspid; in 25 of the 86 cases.

Five of these cases showed malposition.

The next most frequent order of eruption was:

first bicuspid, second bicuspid, canine; in 17 of the 86 cases.

Five of these cases showed malposition.

The third most frequent order of eruption was:

first bicuspid, and almost simultaneous eruption of canine and second bicuspid; in 13 of the 86 cases.

Seven of these cases showed malposition.

The remaining 31 of the 86 cases fell into eight different orders of eruption. In the lower jaw, the most frequent order of eruption was:

canine, first bicuspid, second bicuspid; in 47 of the 107 cases.

Eleven of these cases showed malposition.

The next most frequent order of eruption was:

first bicuspid, canine, second bicuspid; in 20 of the 107 cases.

Two cases showed malposition.

The third most frequent order of eruption was:

simultaneous eruption of the canine and first bicuspid, followed by the second bicuspid; in 15 of the 107 cases

Four of these cases showed malposition.

There was one order of eruption, namely the simultaneous eruption of the bicuspids, followed by the canines, in 5 of the 107 cases, which showed no instances of malposition.

The remaining 20 of the 107 cases fell into eleven different orders of eruption. While the most frequent orders of eruption were determined:

first bicuspid, canine, second bicuspid, in the upper jaw; canine, first bicuspid, second bicuspid, in the lower jaw;

no conclusions could be drawn as to the influence that the order of eruption has on the incidence of malposition of the individual teeth. Even the most frequent orders of eruption for the upper or the lower jaw represented much less than a majority of the cases studied in that jaw.

The studies thus far clearly indicate that no order of eruption per se precludes the development of a normal occlusion. Conversely, it must be stated that the order of eruption is not the significant factor in the development of malocclusion. However, no single group is large enough to be significant from a statistical point of view, despite the fact that four hundred children were studied over a long period of time. Perhaps more extensive studies will help to clarify the influence of this factor.

Premature Loss of Primary Teeth

The influence of the premature loss of a primary tooth, or teeth, on the incidence of malposition of the individual succedaneous teeth was also studied.

When a primary molar was lost prematurely, and the space not maintained, a permanent canine or bicuspid was usually found to be malposed.

During the time when this study was being conducted, there were no adequate criteria for the use of space maintainers. Even today real criteria are still lacking.

The records of this study show 131 prematurely lost primary canines and

molars. Analysis of this figure, tooth by tooth, shows the following:

11 primary canines: none of them replaced by space maintainers.

68 first primary molars: 18 of them were replaced by space maintaners.

52 second primary molars: 23 of them were replaced by space maintainers (Figure 5).

Of the 11 primary canines lost prematurely, 9 (81.81%) were followed by a loss of space, and a consequent malposition of a permanent tooth in that quadrant. 2 (18.19%) were not followed

FIG. 5

		PRIMARY CANINE	FIRST PRIMARY MOLAR	SECOND PRIMARY MOLAR	TOTAL	%
Number of teeth prematurely lost	Female	2	30	27		
	Male	9	38	25		
	Total	11	68	52	131	
Number of teeth showing loss of space	Female	2	15	16		
	Male	7	15	13		
	Total	9 81.81%	30 44.11%	29 55.76%	68	51.90%
Number of teeth showing no loss of space	Female	0	15	11		
	Male	2	23	12		
	Total	2 18.19%	38 55.88%	23 44.23%	63	48.10%
Number of space maintainers with loss of space	Female	0	3	6		
	Male	0	3	3		
	Total	0	6 33.33%	9 39.11%	15	36.5%
Number of space maintainers with no loss of space	Female	0	4	8		
	Male	0	8	6		
	Total	0	12 66.66%	14 60.89%	26	50.98%
Number of normally shed teeth with loss of space	Female	11	10	9		
	Male	7	5	3		
	Total	18 6.45%	15 5.15%	12 5.88%	45	5.81%
Number of over-retained teeth with loss of space	Female	4	4	5		
	Male	3	3	4		
	Total	7 100%	7 100%	9 75%	23	88.4%
Number of over-retained teeth with no loss of space	Female	0	0	1		
	Male	0	0	2		
	Total	0	0	3	3	

by a loss of space. There was no consequent malposition.

6 of the prematurely lost primary canines occurred in the lower jaw. In each instance (100%) there was a loss of space followed by malposition of one or more teeth in that quadrant.

Of the 68 first primary molars lost prematurely, 30 (44.11%) were followed by a loss of space and a consequent malposition of a permanent tooth in that quadrant. 38 (55.88%) were not followed by a loss of space, and consequent malposition. Of these 38 cases, 12 had been successfully maintained by an appliance. Presumably, 44% of the cases maintained by an appliance would otherwise have been followed by a loss of space and malposition.

We must conclude, therefore, that in slightly more than 50% of the cases a malocclusion will follow the premature loss of a first primary molar, since even eliminating the cases where a space maintainer was used, regardless of the results, we find that, of the 50 cases left, where a first primary molar was lost prematurely, 24 (48%) resulted in a loss of space.

Of the 52 second primary molars lost prematurely, 29 (55.76%) were followed by a loss of space and a consequent malposition in that quadrant.

23 (44.24%) were not followed by a loss of space and consequent malposition.

Of these 23 cases, 14 had been replaced by appliances. Presumably, 56% of the cases maintained by an appliance would otherwise have been followed by a malposition. We concluded, therefore, that 70% of all second primary molars that are prematurely lost would result in a loss of space, since again eliminating the cases in which a space maintainer was used, we find that of the 29 cases where a second primary molar was lost prematurely, there was a loss of space in 20 (69%) cases.

Some of these figures contradict those given in other reports.

We have found that there is a need for space maintenance in 70% of prematurely lost second primary molars, 51% of prematurely lost first primary molars, and 81% of prematurely lost primary canines (7–14, 16).

There were fifteen cases where a space maintainer was used, but failed to prevent the loss of space. The reasons for failure were as follows:

1. Too great a lapse of time between the loss of the primary tooth and placement of the appliance i.e., too much "watching and waiting" to see if something was needed.

2. Loss of the appliance due to the loss of an abutment tooth long before the permanent successor could be expected to erupt.

3. Poorly constructed space maintainers. The main flaw in the construction of the appliances that failed for mechanical reasons, was that the horizontal bar was made too thin, and was not reinforced where it joined the abutment crown. This resulted in the bending of the bar due to the forces of mastication.

Comparison of Eruption Times of Teeth Which Followed Normally Shed Teeth with Those Which Followed Prematurely Lost Teeth

A comparison was made of the eruption times of bicuspids whose predecessors had been extracted prematurely, and bicuspids whose predecessors had been normally shed. (Figure 6). Those cases where space maintainers were used successfully were also included. Over 90% of the prematurely lost teeth had been lost very early, that is, more than one and one-half years earlier than the corresponding teeth in the same mouth, that were normally shed. The average age of the eruption of the bicuspids that erupted

following very early loss of a primary molar was the same or greater than that of teeth following normally shed molars. the primary tooth. While the very early extraction of a primary tooth opens a pathway of diminished resistance through

FIG. 6. Combined Shedding and Eruption Time of Teeth of Males and Females

		NUMBER OF TEETH			SHEDDING			ERUPTION			RANGE	
		Right	Left	Right + Left	Right	Left	Right + Left	Right	Left	Right + Left		
					Yrs. & mos.	Yrs. & mos.	Yrs. & mos.	Yrs. & mos.	Yrs. & mos.	Yrs. & mos.	Yrs. & mos.	Yrs. & mos.
Upper												
Central incisor	NR	145	140	285	6-8	6-7	6-8	6-10	6-11	6-10.5	6-2 to 7-10	
	PL	9	13	22	6-7	5-8	6-2	6-10	6-5	6-7.5		
Lateral incisor	NR	126	118	244	7-6	7-6	7-6	7-11	7-10	7-10.5	7-1 to 8-9	
	PL	5	5	10	7-6	7-7.5	7-6.5	8-10	8-4.5	8-7		
Canine	NR	52	59	111	10-7	10-4.5	10-6	10-11.5	10-8	10-10	9-7 to 11-9	
	PL	3	2	5	8-10	8-11	8-10	10-5	10-0	10-3		
1st primary molar	NR	70	69	139	9-11	10-0	10-0	10-1	10-1	10-1	9-1 to 11-3	
1st bicuspid	PL	32	24	56	8-6	9-6	9-3	10-0	10-5	10-3		
2nd primary molar	NR	53	53	106	10-7	10-8	10-8	10-10	10-9	10-9.5	9-8 to 11-11	
2nd bicuspid	PL	24	27	51	10-2	9-6	9-10	11-0.5	10-11.5	11-0		
Lower												
Central incisor	NR	160	166	326	6-1	6-1	6-1	6-3	6-2	6-2.5	5-7 to 6-11	
	PL	8	7	15	6-2	6-5	6-3.5	6-4.5	6-6.5	6-5.5		
Lateral incisor	NR	139	136	275	7-1	7-0.5	7-1	7-3	7-4	7-3.5	6.6 to 8-0	
	PL	1*	1*	2*	6-8	6-8	6-8	6-8	6-8	6-8		
Canine	NR	82	86	168	9-9	9-10	9-10	9-10	9-11	9-11	8-9 to 10-9	
	PL	4†	2†	6†	10-1	10-1	10-1	10-6	10-2	10-4		
1st primary molar	NR	82	70	152	9-8	10-5	10-1	9-11	10-6	10-3	9-1 to 11-3	
1st bicuspid	PL	18	29	47	8-3	7-10	8-0.5	10-1.5	10-2.5	10-2		
2nd primary molar	NR	53	45	98	10-9	10-9	10-9	10-10	10-11	10-11	9-7 to 12-0	
2nd bicuspid	PL	23	26	49	9-5.5	9-0	9-3	11-3.5	11-1.5	11-2		

NR—Average age at which teeth were normally shed and erupted
PL—Average age of premature loss and average age at which teeth erupted following the premature loss
Range—Range of eruption in years and months of combined male and female right and left
* Male only
† Female only

It would seem then that the eruption of the permanent tooth is not necessarily hastened by the very early extraction of which the succedaneous tooth can and usually does erupt rapidly, this pathway must be maintained. Drifting and tipping

of the teeth adjacent to the space soon after the early loss of a primary tooth will tend to develop areas of greater resistance and so impede, rather than hasten the eruption of the succedaneous tooth (15).

Where a tooth was prematurely lost, but lost within one and one half years of the normal shedding time, the eruption of the permanent tooth was hastened.

There was an insufficient number of cases of prematurely lost primary incisors and canines to lead to any conclusion as to the influence of this factor on the rate of eruption of their successors.

The study of shedding and eruption ages leads to the conclusion that space maintainers require careful supervision. It may be necessary to alter the space maintainer to meet the requirements of changing conditions, or in some instances, even to replace the appliance. For example, when a cast space maintainer is placed before the eruption of the first permanent molar, it usually is necessary to modify that maintainer when the first permanent molar erupts. The change is required to insure better contact between the distal end of the horizontal portion of the space maintainer, and the mesial surface of the erupting first permanent molar, and to prevent possible interference with the formation of alveolar bone mesial to the mesial surface of the mesial root of the erupting first permanent molar by the mere presence of the original vertical bar. At approximately nine years ten months of age, one abutment, the primary canine, may be lost. The other abutment, the first primary molar, may be lost at the age of ten years one month. The presence of space maintainers may hasten the resorption of the roots of the abutment teeth, because of the changed direction of functional pressures on the paradontium. If the maintainer is successful in retaining the space up to the time of resorption of the abutment teeth, then the eruption of the bicuspid for which space is being maintained tends to be hastened, because of a decrease in resistance. There probably would be an interval of less than ten months between loss of the modified appliance, and eruption of the bicuspid.

Over-retention of Primary Teeth and Malposition of Permanent Successors

During a review of the data, it was noted that a large number of over-retained primary teeth were associated with a malposition of their permanent successors. While the total number of over-retained primary canines and molars was small, i.e. 26, (Figure 5), the fact that 88% of them were associated with malocclusion seemed significant, particularly since all 7, i.e. 100%, of the over-retained primary canines, and all 7, i.e. 100%, of the over-retained first primary molars, were associated with malposition of their successors. 75% of the 12 second primary molars that were over-retained, were associated with malposition of their successors.

Since the total number of these cases is small, many more cases will have to be observed before any definite conclusion can be reached concerning the importance of over-retention of primary teeth as related to development of malocclusion.

Summary

1. The primary teeth apparently are shed earlier, and the succedaneous teeth apparently erupt earlier than has been previously reported.

2. The greater the interval of time between the normal shedding of a primary tooth and the eruption of the succedaneous tooth, the greater the likelihood of malposition of that particular tooth.

3. The order of eruption of the permanent canines and bicuspids has little or no influence upon the development of malocclusion.

4. All prematurely lost primary canines and molars should be replaced by space maintainers immediately, whenever possible, without any period of watching and waiting to see what happens, since very early premature loss of a primary tooth results eventually in delayed eruption of the succedaneous tooth, probably in malposition, unless an adequate space maintainer is used.

5. Premature loss of a primary tooth within one and one-half year of its normal shedding time usually results in hastening of the eruption of the succedaneous tooth.

Although this study started with a total of four hundred cases, the incidence of the individual factors studied was relatively low. It is evident that perhaps thousands of cases should be studied in order to accumulate sufficient data from which conclusive deductions may eventually be made.

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A Physician's Viewpoint of the Dental Health Problems in Children*

JOHN A. BIGLER, M.D.†

I AM very happy that this session of the Illinois Unit of the American Society of Dentistry for Children is to be on "The Dental Care of the Pre-school Child." It is during this period that the ground work must be laid for good dental health.

The past decade has seen a continuously increasing emphasis being placed on infant and child care. Because of this, infant mortality and morbidity have been drastically lowered due to better infant feeding, control of infection and an understanding of electrolyte balance. Contagious diseases and their sequelae are on the decrease because of accepted immunization procedures and the antibiotics. Many congenital anomalies are now corrected by advances in surgery. Behavior and emotional problems, though still prevalent, are better understood and handled. Public health and hygiene have become an accepted part of most school and community programs.

Dental health programs have been in existence for a long time but for various reasons they have not been as effective as they might be. This is really a paradox because if one considers dental caries a disease of the calcified tissue of the teeth, then one must realize that dental disease is the most prevalent of all disease processes affecting children. It is no respecter of age, income or special groups.

I am not going to enumerate the dental problems of children. We all know the enormous need of dental restoration alone. What we must strive for is prevention of dental caries by education and early restoration of the diseased teeth. The two year old child should be going to the dentist just as he goes to the physician. It was this idea that lead to the development of the well baby clinic with the resulting reduction in infant morbidity and mortality. Such clinics are now universally accepted and from them have grown other preventive programs such as universal immunization.

We know that diet, vitamins and calcium do not have much influence on dental caries in America. But illness, especially when severe or chronic does affect dental structures. This then must have special attention. Also it is becoming evident that the midmeal consumption of sugars plays some part in dental health. Much of this is educational and will be of little value unless good oral health habits are formed and backed up by regular dental examinations. Unfortunately, by the time a child has a tooth ache, irreparable damage has been done and the disease has progressed beyond the stage of a minor ailment.

When one sees a four year old child with a complete set of dentures due to the extraction of 20 carious and abscessed teeth, one might think of the good cosmetic result and the ability to chew and speak well brought about by the excellent

* Read before the Illinois Society of Dentistry at the U. of Illinois College of Dentistry, November 5, 1952.

† From the Children's Memorial Hospital, The Otho S. A. Sprague Memorial Institute Laboratories and Northwestern University Medical School, Pediatric Department.

restoration in the mouth. But more important should be the recognition of failure in the care that this child should have received. He has not only suffered physically but emotionally. Proper prophylaxis, control and early restoration of his dental caries could probably have prevented the necessity for dentures at the age of four years.

I think this child encompasses all of the problems of dental health in children. The child himself cannot be at fault because he is only four years old. The responsibility of what happened to him must then be divided between the parent, the physician and the dentist.

The parents' acceptance of responsibility for dental problems is going to depend upon their own economic situation and their own experiences with dentists. It is going to be influenced by the physician's recognition and advice on dental problems, by the dentist's giving acceptable dental care to the child and by other various media of information to which the parents are exposed. Although the parental responsibility for children's dental health is important that responsibility must be shared by the parent-physician and parent-dentist relationship.

I think in the past physicians and dentists have worked too much as individual groups and have not combined their respective efforts in attaining an ideal dental health program. We as dentists and physicians, especially if we specialize in children, have accepted a responsibility to society as being experts on child health. Dental health is a part of this program. From sheer numbers, the oral health problem is too large for the dental profession to handle alone.

Physicians and especially pediatricians because of their early contact with the mother and child are in an advantageous position to give instruction early that will lead to sound oral health habits. We can recognize oral disease at its onset and advise prompt consultation with the dentist. We can begin the education of parent and child in the accepted methods of caries prevention and control. We can recognize the various types of malocclusion and refer such cases to the dentist for further observation or treatment. We can recognize when acceptable dental care is being given; when not, we should have a consultation with the dentist. We can aid the dentist in explaining to parents the value of recommended procedures.

You may ask how physicians get this information on dental health, for most of us have had little formal education on this subject. Clinical experience is helpful but slow in accumulation. There is supplementation with association at teaching hospitals and what has appeared in the medical literature. In checking recently on articles on dental health, I was impressed by the few that have appeared in the general medical and pediatric literature in contrast to the many in the dental and special journals.

Medical care should include examination of all the structures in the mouth instead of just the tongue and tonsils. There has been poor observation when no mention is made of dental caries, the condition of the gums, gum boils, malocclusion, etc. You should expect all of the above from the physician and if you do not get it, there should be just criticism on your part.

Pedodontics is a comparatively new specialty in dentistry and it must go through the same growing pains that the pediatric specialty has gone through. This means not only the specialists' care of the child but also the setting up of standards of dental care that will be acceptable to all dentists, physicians and

parents. There are not enough pediatricians just as there never will be enough pedodontists to do the job alone. There is no reason why there ever should be enough because I am sure that the general dentist will for years have to furnish the bricks and mortar upon which any health program is built.

Actual demonstration and the dissemination of acceptable dental procedures to the public are forceful tools which will determine the degree of both parental and professional acceptance.

Parents to a large degree are governed by their own experience in accepting procedures for their children. I would like each of you to ask yourself how much dental health instruction you received when you went to your dentist. I have been going to dentists for years and it was only three years ago, when it was already too late, that I had a dentist discuss with me anything other than the necessity for a filling or extraction. What information are you now giving to your adult and child patients? Do you discuss with them their oral health habits or are you just looking at the teeth and keeping your impression to yourself? Do you instruct them in the proper way to brush the teeth, and when to do it, and what kind of a dentifrice to use or do you assume that they already know this? Do you question about the between meal consumption of sugars or do you just tell the children to stop eating candy? Do you know what the other dentists in your community do? You have all heard such discussions at your dental society meetings but have any of you discussed these questions at local medical society meetings?

I think, too, there should be more participation by dentists in their community hospitals. There should be dentists on all hospital staffs and they should participate in staff programs. I feel the same about the county medical society. Dentists should appear on the county medical programs as well as having medical men appear on dental programs. If one is not asked to participate in such programs there is no reason why one, through his respective society, should not ask for participation. Valuable contributions can be made by each group with a better understanding of the problems we both have to face. In my experience it has been rare to see a paper by a dentist in a state medical journal. Both of our groups have a tendency to write for our respective journals hoping that by chance the other group will see the article and do something about it.

We as pediatricians are also confronted far too often with the dentist who still believes as many parents do, that primary teeth are going to be lost anyway so why try to repair them. No attention is paid to the gum boil. It is ignored. Possibly part of this stems from the fact that children may be difficult to deal with and so restorative work is time consuming. Such instances are not isolated in any physician's practice. This problem can only be solved with honesty among ourselves and consultation between dentist and physician. I am sure that with education of the public such practices will have a tendency to correct themselves.

I should like to mention too the value of dental clinics even in small communities. These are of tremendous value not only to those of low economic resources but also to the general education of the public on dental health. Participation in such endeavors is of low or no monetary value but the personal satisfaction derived is great. One's reputation in the community is also enhanced. Such work is time consuming but it is a contribution to community life. There was much

opposition to well baby clinics and preschool clinics by the medical profession when they were started but time has proven that such clinics have paid rich rewards both to the community as well as the profession. I can only recommend that all physicians and dentists participate in such programs. If one is not existent, start one yourself.

Although I recognize that the mechanics of the practice of dentistry and medicine differ a great deal, I am continually impressed with the time and service that physicians give to community health programs in comparison to that of the dentist. There is really no valid reason for this in spite of the many arguments that have been put forth. I suspect that the time is near when dentists will have to take leadership in the organization of dental health programs, such as physicians have done with well baby clinics and the preschool child. Such a program must stem from the education for service in the dental schools but to be effective must have participation by the dentists and dental societies. You as dentists have a tremendously stimulating task before you and I can assure you the rewards are equally great.

I have rambled a good deal in this discussion. I can only summarize what I intended to imply by the following:

1. The enormity of a good dental health program must include understanding cooperation of the dentist and physician.

2. Although restorative dentistry is essential, prophylaxis must be the cornerstone for the reduction of dental caries.

3. Public education must be attained to bring the preschool child under a dentist's care.

4. Physicians must be educated as to accredited methods of prophylaxis and dental control.

5. Two years of age is the proper age for the habit of dental care to be established.

6. Instruction on oral health should be given by the dentist to every patient that visits his office, no matter what the reason for the visit.

7. The stimulation to foster an adequate dental health program for the nation must come from the dental schools and dental societies.

Unit News

Michigan

Dr. Hugh M. Kopel, chairman of the program committee, is still "batting 1000" for this season by presenting another interesting program. On December 3, 1952, Dr. Robert E. Moyers of Toronto, Ontario presented an excellent clinic on interceptive orthodontics. Many Michiganders were anxious to meet Dr. Moyers because he will be the head of the orthodontic department of the University of Michigan after July 1, 1953.

New Jersey-New York-Pennsylvania

The A. S. D. C. units of the three eastern states, New Jersey, New York and Pennsylvania held their Tri-State Mid-year meeting at Hotel Governor Clinton in New York City on Pearl Harbor Day, December 7th.

The meeting started at 9:00 a.m. with a meeting of the executive council.

From 12 noon to 1:30 the following table clinics were presented.

1. Practice Management in Pedodontics
   Dr. Robert M. Butler, Scranton, Pa.
2. Why Preventive Orthodontics?
   Dr. William Joule, Newark, N. J.
3. Diagnosis and Treatment Planning in Dentistry for Children
   Dr. Joseph G. Keller, New York, N. Y.
4. Endodontics for the Primary Teeth
   Dr. Louis B. Kelsten, Newark, N. J.
5. Everyday Dentistry for Children
   Dr. Roger E. Poole, Upper Montclair, N. J.
   Dr. Armand M. Rose, Upper Montclair, N. J.
6. Plastic Crown Restoration for Fractured Young Permanent Teeth That Have Undergone Partial or Complete Devitalization
   Dr. Walter S. Weisz, Pittsburgh, Pa.

At 3 p.m. for the general session Dr. Sidney Kohn gave an essay on "Prophylactic Orthodontics in Dental Gross Guidance."

Northern California

Our Northern California editor, Edward S. Mack, sends the following report on activities from his unit.

On Wednesday, December 3, Eugene E. West, D.D.S. spoke at the Winter Meeting of the Northern California Unit of the American Society of Dentistry for Children. His topic "Growth and Development as it Relates to Space Maintenance" was informative and unusually well presented.

He stated the object of space maintenance was the preservation of arch lengths, the goal being to develop as fine a natural dentition as is possible for the child.

During the meeting the Nominating Committee presented a list of candidates. The list was approved unanimously and the new officers are as follows:

President.....John Sowden
Pres. Elect.....John Tocchini
Vice President.....Carl Ellertson, Jr.
Secretary-Treasurer.....Lloyd Richards
Editor.....Edward S. Mack

Director for 2 years.....James Rogers
Director for 1 year.....I. Irwin Beechen

From the rapid growth and quality of the meetings, one can predict an even more brilliant future for this organization.

Missouri

W. Neal Newton sends word that the membership of the Missouri unit has recovered fully from the strenuous task of providing for the A. S. D. C. meeting which was held in St. Louis in September. For those of you who were not present your editor would like to say that the arrangements in St. Louis were second to none.

On December 8th their unit held its first meeting since the national meeting and had a panel discussion on "The Second Dental Appointment for the Child Patient." Dr. Ruth Martin served as moderator with John Gilster, John Holland and Cornelia Thompson as panel members.

Southern California

Editor John O. Whitaker sends "plenty" of news about his unit.

On October 31, Halloween night, they joined with the Pacific Coast Society of Orthodontics and Dr. Harry Sicher spoke about the eruption and movement of teeth. If Dr. Sicher had not had to catch a plane the discussion would have gone far into the night.

Monday, November 24th, Dr. Niels B. Jorgensen discussed "Anatomical Approach to Local Anesthesia." Dr. Jorgensen is the inventor of the self-aspirating carpule for local anesthetic injections and the S. C. unit is proud to have him listed in their membership.

Before the dinner Dr. Robert Hamilton had a splendid clinic on oral photography.

The next meeting will be held on February 2, 1953, Children's Dental Health Day. Mr. Guy Hoyt, Associate Superintendent of Schools in the city of Los Angeles will be the after dinner speaker and his topic will be "The Value of a Healthy Child."

Members are inviting pediatricians and teachers as their guests for this most important meeting.

Southwestern Society of Pedodontics

The Southwestern Society of Pedodontics met in Austin, Texas at the Commodore Perry Hotel in a four-day semi-annual meeting over the Labor Day weekend.

Dr. Charles A. Sweet, director of post-graduate education in pedodontics, College of Physicians and Surgeons, San Francisco, Calif., was the guest clinician, giving lectures and clinics on dentistry for children.

Dr. George F. Bohuslav, local pedodontist, president-elect and general program chairman, was host to pedodontists from Colorado, Oklahoma, Kansas, Louisiana, New Mexico and Texas.

Dr. Garnett Yearwood from Shreveport presided over the business meeting. At the close of the meeting on Monday, new officers were installed. Dr. Bohuslav was installed as president; Dr. Summer Russman from Oklahoma City, president-elect; Dr. Lee Blackwood from Corpus Christi, vice-president; and Dr. Ben Caudle of Tulsa, Oklahoma, secretary-treasurer.

The next regular meeting will be held in Denver, Colorado next June.

Ohio

At the last meeting of the Ohio Unit; the following were elected to office:

E. Carl Miller, President—Cleveland
Hal E. Barlow, Vice President—Akron
T. H. O'Reilly, Secretary-Treasurer—Cleveland

Plans are under way to welcome A. S. D. C. to Cleveland for the National Meeting.

E. Carl Miller as General Chairman (Ohio) will in his able and efficient manner provide a program that will be of interest to the visitors.

The Ohio Unit, and particularly the Cleveland Section, anticipate a large turnout and will do everything possible to make this meeting an outstanding event.

Alabama

The Alabama Chapter of the American Society of Dentistry for Children held its annual meeting April 15, 1952, at the Tutwiler Hotel. Breakfast was served to the nineteen (19) members attending.

The meeting was called to order by the president, Dr. Walter J. Kyle. The minutes of the last annual meeting and of the National Children's Dental Health Day meeting were read by the Secretary, Dr. Walter T. Dunn. Committee reports were given by the chairmen.

The following officers were unanimously elected: President, Dr. Orland L. Rice, Vice President, Dr. Walter T. Dunn and Secretary-Treasurer, Dr. William C. Morgan.

It was suggested by Dr. Polly Ayers that three strong units of the Alabama Chapter be organized, one in each of the following cities, Birmingham, Mobile, and Montgomery. A chairman of each unit was to be appointed by the president. This suggestion was accepted and acted upon.

National Children's Dental Health Day was discussed and action was taken regarding a radio address by one of the members, emphasizing care and preservation of children's teeth.

Since the meeting in April, our capable president, Dr. Rice has been called back into the Navy Dental Corps. At the present time, he is practicing for "Uncle Sam" in Washington, D.C. Dr. Dunn has succeeded him as president.

We are endeavoring to increase the membership in the Alabama Chapter. Anyone who is interested in Children's Dentistry is cordially invited to become a member. Dues are eight dollars ($8.00) per year, which includes the "Journal of Dentistry for Children."

The Challenge of Cerebral Palsy to the Dentist

JAMES P. MCKNIGHT, B.S., D.D.S. AND CHESTER LLOYD, B.S., D.M.D.
Memphis, Tennessee

Editor's note:

The authors of this article present it as a review of their experience in dealing with cerebral palsy children at the Memphis Crippled Children's Hospital. Jim McKnight is a graduate of the University of Tennessee School of Dentistry, practices pedodontics in Memphis and prepared the material during his work in the Department of Postgraduate Pedodontics in the Univ. of Tennessee School of Dentistry.

Chester Lloyd is a graduate of the School of Dentistry, University of Oregon, where he studied under Mott Erwin. He is now Director of the Postgraduate Pedodontics program at the University of Tennessee and conducts a part-time practice limited to dentistry for children.

A.E.S.

IN THE practice of pedodontics, the occasional patient will be encountered who varies from the so-called "normal child," either because of a psychological impairment or as a result of a definite pathological defect. In the group, commonly referred to as "abnormal," may be placed children who are afflicted with the disease entity known as cerebral palsy. These children, because of their affliction, offer a decidedly greater challenge to the pedodontist and the general practitioner than the normal child. This challenge must be met by the dental profession if it is to discharge the moral and professional obligations owed those it serves.

DESCRIPTION OF THE DISEASE

"Cerebral palsies represent the largest single cause of crippling, poliomyelitis ranking a close second. The number of cases of cerebral palsy in the United States is not definitely known, but there are probably between 150,000 and 200,000. Accumulation of data in various states and cities has shown that there is a steady increment of new cases each year and that this increment is the same in cities as in rural areas. It has been estimated that there are seven children per 100,000 population born each year with cerebral palsy. Since, however, the mortality rate during infancy is approximately one-seventh of the total number, there are actually six new cases each year per 100,000 population who require continued medical supervision. Of these six, two are definitely feeble-minded. The four with normal mentality may be roughly grouped as follows: one, severe and homebound; two, of moderate degree, and capable of considerable improvement; and one so mild that treatment is often not necessary" (27).

The term "cerebral palsy" is one which is applied to a number of conditions in which injury to parts of the brain has resulted in paralysis or disruption of motor function. It may also cause deafness, visual disturbances, loss of speech and a lowered mentality. Although there are many types and variations of cerebral palsy, depending upon the location and extent of injury to the brain, it is possible to distinguish three main types:

1. Spasticity
2. Athetosis
3. Ataxia.

One might also classify tremor and rigidity as primary types, but these are

the result of mixed lesions rather than the result of damage to a definite portion of the brain.

One frequently hears the term "spastic" used in referring to the cerebral palsies, implying that the term is the correct nomenclature for the disease entity and covering the many types of disturbances encompassed by the disease. This is incorrect since the term applies to but one of the types of cerebral palsy.

Etiology of Cerebral Palsy

"Cerebral palsy may result directly from any factors, some of which occur before birth and some of which occur after birth. The incidence of cerebral palsies seems greater in premature infants than in those who have gone to term, in infants whose birth-weights are above normal, in first born children, in children born to older women, in Rh negative women and in the white race more often than in the negro race" (13).

There is some evidence that heredity plays a role in the etiology of cerebral palsy since there have been cases in which more than one child in a family was afflicted with the disease. It is thought that there may be a hereditary failure (13) of development in certain portions of the brain.

In listing the etiological agents responsible for cerebral palsy it may be well to divide them generally in three groups:

1. The causes occurring before birth, or prenatal causes,
2. Those causes occurring during birth, or natal causes, and
3. Those causes occurring after birth, or postnatal causes.

The first group includes such factors as anoxia, infection (particularly the viral diseases, among which German measles seems to be one of the chief offenders), metabolic disturbances, malnutrition and Rh incompatibility.

The second group contains such factors as anoxia, trauma and hemorrhage. During the course of birth the mother may be given certain drugs and anesthetic agents which cause no serious respiratory depression of the mother, but may result in severe respiratory depression of the infant, with the concurrent anoxia and vascular damage. It is also possible for the umbilical cord to twist around the neck of the foetus causing strangulation, or compression of the cord against the pelvis. The assertion has often been made that the injury of a child during birth was directly the fault of the obstetrician in applying forceps incorrectly, and in some cases this is undoubtedly true, but in a large percentage of the cases the injury was a direct result of forceful impingement of the skull on the pelvis. The precipitate birth of the infant may also be a cause of cerebral palsy when a sudden drop from a high uterine pressure to a lower atmospheric pressure results in rupture of the delicate vessels of the brain and the accompanying hemorrhage.

The third group encompasses such factors as infection, trauma, neoplasms, drugs, vascular conditions and anoxia (13).

Spastic paralysis results from injury to the cortex of the cerebral portion of the brain and is characterized by hypertonicity of the muscles and an aggravated stretch reflex. Attempts to move a muscle are strongly opposed by antagonistic muscles.

Athetosis results from damage to the basal nuclei of the brain and results in a constant movement of the mandible which renders the simplest dental procedure difficult.

Ataxia results from damage to the cerebellum and is manifested by loss of

the sense of balance, dizziness and nausea. These children find walking difficult or impossible and must be taught to balance themselves.

Premedication

The practitioner who has had occasion to perform dental operations on the cerebral palsied is well aware of the anxiety of these patients at a time when the most complete relaxation possible is desirable.

It is therefore greatly to the advantage of the pedodontist to take measures which will eliminate or greatly reduce this condition. In addition to consideration for the patient and the instillation of confidence in the pedodontist, perhaps the most successful method of coping with this situation is the premedication of the child.

Many drugs have been used in the premedication of patients prior to operative procedures, all of which have advantages and disadvantages. In dealing with the cerebral palsied, sedation is the desired effect rather than hypnosis. As has been mentioned before, the majority of these children are normal in intelligence, and, with the right approach, may be conditioned to accept the discomforts to which they might be subjected in the dental chair. During their first encounter with the dentist the administration of a sedative will aid greatly in this conditioning. At the Memphis Crippled Children's Hospital the barbiturates are used routinely before dental procedures and thus far have been very successful. The most commonly used drug is Devanal, in 0.5 gr. capsules. As might be expected some cerebral palsied children experience great difficulty in swallowing capsules or tablets, in which instance suppositories which have been immersed in warm water may be used (28). At the Postgraduate Pedodontic Program of the University of Tennessee College of Dentistry the most commonly used drug is Nembutal, either in ¾ grain capsules or in the elixir form, which is compounded to contain ¾ grain per teaspoonful.

It has been found that in some cerebral palsied children the administration of the barbiturates has an opposite effect to the desired one. Some children become very excited and more difficult to handle following a normal dose, in which case it is wisest to forego the use of such drugs. If by chance an overdose of the drug is administered, and this might easily happen when one is dealing with a physically depressed individual without altering the drug dosage, artificial respiration, oxygen therapy and caffeine sodium benzoate (0.5 gr.) or ephedrine (10–30 mgm.) administered intramuscularly, is beneficial (29). In view of the individual idiosyncrasies to the barbiturates it is wise to proceed cautiously in their administration, however, if care is used they are invaluable and will render the practice of pedodontics much less trying.

In addition to the use of premedication, local anesthesia is a valuable aid in dealing with the dental problems of the cerebral palsied. It should be emphasized, however, that not all cases require local anesthesia, but when the procedure is expected to be too painful, one should not hesitate to administer a local anesthetic.

There is seldom any need to administer a general anesthetic to the cerebral palsied child. In the first place, insult is added to injury if adequate provision is not made for oxygenation since anoxia is one of the etiological agents of cerebral palsy. Secondly, the administration of a general anesthetic does not accomplish the desired end in many cases, i.e., the athetoid patient, whose involuntary movements continue even under general anesthesia.

Thirdly, dental operations are unique in that the patient must be properly positioned for the best results. It is very difficult to work with the patient in the supine position (Figure 1). In addition, some operations are time-consuming if the results are to be acceptable, and in these children, the work must be as complete and permanent as possible. Experience has shown that operative technique and the quality of the results suffer with the use of general anesthesia.

FIG. 1

FIG. 2

MANAGEMENT PROCEDURES

The handling of the cerebral palsied child in the dental chair is indeed a problem in the majority of cases and in no case can it be considered an easy task. There are means available, however, which will permit the operator to accomplish any operation which is necessary. It is not a good policy to permit the child to be held in the parent's lap and attempt to perform dental operations. Indeed, the parent is not permitted in the operating room except on the first visit, since the child will in all probability make some attempt to gain sympathy from the parent. Certainly the parents cannot be criticized for indulging their children, for under similar conditions anyone might follow the same pattern of over-indulgence. However, common sense and the experience of those who have handled thousands of these cases indicate that over-protection and indulgence render their rehabilitation much more difficult. In addition to upsetting both the patient and the operator, the parent will not understand some of the measures which must be used and will feel that the child is being dealt with harshly, instead of regarding them as measures to protect the child from injury.

There are two appliances which are used routinely at the Memphis Crippled Children's Hospital and in the Postgraduate Pedodontic Department of the University of Tennessee College of Dentistry that make operations on cerebral

palsies, and any other child who is difficult to manage, much easier.

The first appliance is a restrainer which consists of a piece of light canvas eighteen inches long by twelve inches wide (Figure 2). On one of the twelve inch sides are sewn four three-foot lengths of light web belting spaced about three inches apart, and on the opposite side are sewn four buckles. On one of the eighteen inch sides, two three-foot lengths of belting are sewn six inches apart equidistant from the middle of the side. The restrainer is placed on the child in such a manner that the eighteen inch side is in a longitudinal position and the two web belts are at the top of the restrainer. These belts are passed over the child's shoulders, one on either side of the neck and tied in a slip knot to the head rest support. The other four belts are passed around the chair and buckled to the opposite side. This will render the child's trunk and arms immobile and prevent any but the slightest movement. When this appliance is used the child cannot use the cuspidor, and it is one of the duties of the assistant to have a sputum pan nearby at all times. Experience has shown that these children will accept the restrainer much better than they will accept being forcibly held by an assistant. In addition, the restrainer gives the child a sense of security, since it is evident to him that injury will not result from forcible contact with various articles during uncontrolled movements.

The other appliance is one designed to keep the patient's mouth open. It consists of a tongue depressor blade around one end of which several turns of cotton gauze have been placed (Figure 3). The conventional mouth props are not at all dependable when operating on a cerebral palsy case. They are difficult to insert, difficult to maintain and may slip at a most inopportune moment. The prop described may be used very efficiently by the assistant and will cause only mininal trauma to the child's teeth, lips and tongue. When necessary, two or three props may be used at one time to keep the child's mouth wide open and may be changed as often as necessary.

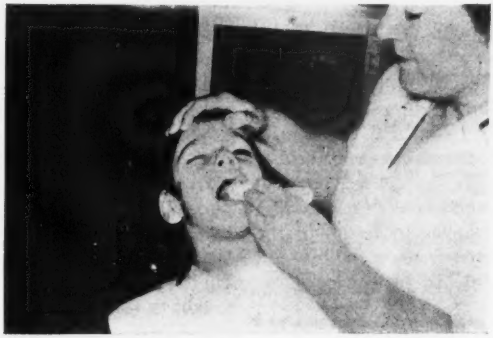

FIG. 3

EXAMINATION PROCEDURES

Except for certain modifications, the procedures of examination of cerebral palsy cases are the same as those applied to the normal patient. Because of the uncontrollable motion of the mandible

and the sudden closure of the jaws, the operator must be certain that his fingers are not resting on the occluding surfaces of the teeth. It is wise to select as a finger rest the buccal surfaces of the teeth or the muco-buccal fold. With the tongue-depressor mouth prop in place, however, it is possible to make a thorough examination without the danger of broken mirrors and mis-directed explorers. Roentgenographic examination is a difficult procedure and the operator cannot hope to attain the results possible on a normally co-operative patient. One can, however, secure roentgenograms which are of diagnostic value, even if some of the finer details are blurred. This may be accomplished by (1) having the assistant place two or three gauze wrapped tongue depressors in the mouth and steady the head in the head rest, and (2) using a straight pair of hemostats as a film holder, place the film in the desired position. With the index and second fingers holding the hemostats in place by resting on the anterior teeth, steady the mandible with the thumb, third and little fingers.

Operative and Surgical Procedures

Operative and surgical procedures on these patients are the same as those used on other patients. Since the child cannot use the cuspidor with the restrainer in place, a sputum pan must be used, or, in smaller or more uncontrollable children, an aspirator may be used to remove blood, water, mucous, and saliva. It is absolutely necessary to have a good aspirator and a supply of oxygen as part of the emergency equipment. Cavity preparation, needless to say, is difficult, and one cannot hope to secure an ideal preparation in all cases. But the majority of the time a preparation can be made which compares very favorably with those in patients not so handicapped. Leonard (7) has recommended the use of large burs and excavator whenever possible and experience has proved this a valuable recommendation. By using these large instruments the preparation may be made with greater rapidity and with less danger of pulpal exposure. It is wise, when preparing a cavity, to incline the handpiece as far to the buccal or lingual as possible so that, if there is an accidental closure of the mouth, the instrument will not penetrate the pulp or soft tissues. Phenol is used routinely as a protein coagulant in the prepared cavity, and, although this practice is decried by some, thus far there has not been any evidence of a phenol burn on the soft tissues. When a base is needed, a quick setting zinc-oxide-eugenol cement is recommended both for its obtundant effect and because it will set when wet.

In any dental operation on the cerebral palsied, whether it be preparing a cavity, making an injection or inserting a restoration, the operator may benefit by applying the principles of relaxation which are taught to these children. When making a mandibular injection, for instance, if the syringe is held in the pen-grasp and the hand allowed to rest on the mandible in such a manner that it will ride with any movement, the injection can be made without unintentional punctures. Let the assistant be responsible for keeping the jaws open and as still as possible and concentrate on riding with any movement rather than forcibly combating it.

There is no apparent reason which would contra-indicate infiltration or block anesthesia for the majority of surgical and operative procedures. Students in the Postgraduate Pedodontic Program of the University of Tennessee College of Dentistry have successfully performed

such operations as multiple extractions, removal of lower first permanent molars with large granulomas which involved incision of the gingival tissues and curettage, and the removal of follicular cysts under local anesthesia.

The main restorative materials used are alloys and silicates. In the majority of the alloy restorations it is possible to carve a functional anatomy; in some cases the anatomy is flat or followed out slightly. Since attrition is rapid in many cerebral palsies, it is desirable at all times to place a sufficient bulk of alloy to prevent this attrition and to preclude fracture at the isthmus of a Class 2 restoration.

Summary

The dental treatment of the cerebral palsied is admittedly a difficult task and will challenge both the patience and skill of the operator. However, by observing the simple suggestions enumerated above, the task need not be too difficult or beyond the scope of the average dentist. In the past this challenge has not been met, due partly to two factors:

1. Many practitioners do not fully understand the disease and the methods which may be used to cope with its dental aspects.
2. Some of the literature injects the idea that it is almost impossible for even a specialist to accomplish anything with these patients, implying that such operations are totally beyond the management of the general practitioner.

It is hoped that the approach offered will be of practical value to the reader.

In dealing with the cerebral palsied, one must be mindful of several factors: first, these children are in most instances in dire need of dental treatment; secondly, the number of cerebral palsy cases is increasing each year, which in turn renders the need of dental care even greater; thirdly, if we as members of the dental profession, dedicated to service to mankind, fail to meet this challenge, we are failing in the moral obligations we incurred when we accepted our degree and license to practice dentistry.

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Two Abstracts by Dr. Hugh M. Kopel, Detroit, Michigan

Speech Therapy in Relation to Malocclusion. WRAY, ELINOR. Dent. Journal of Australia. **24**: 103–10 June 1952.

The purpose of this paper is to show the inter-relationship between speech defects and malocclusion of the teeth. It seems certain that some cases of malocclusion are the direct cause of a speech defect or a speech abnormality may cause displacement of the teeth. An outline of the main types of speech defects and their causes is presented.

The most common group of speech disorders which may be influenced or caused by malocclusion and abnormalities of the jaw are the dyslalias. Among the dyslalias, the various types of sigmatisms or lispings are discussed. More directly though, some malocclusions and oral deformities which cause dyslalias and defects of vocal tone are listed, such as: (a) cleft palate and cleft lip (b) open bite (c) recessive mandible (d) prognathic mandible (e) general dental deformities.

(a) Cleft palate causes more alterations in speech than any other dental deformity. The extent of the anatomical deformity determines the characteristic of the vocal tone as well as the articulatory errors. Unintelligible speech is heard from patients with a cleft of the soft palate alone.

(b) Open Bite. The effect upon speech here, depends upon the size of the hiatus and upon the degree of prognathism of the mandible or maxilla. The lingual sounds, L, D, and T may be produced with the tongue protruding thru the hiatus. If the lower lip cannot be readily placed in contact with the upper teeth, F and V will be defective. S, Z, and SH are usually affected too. If the lips cannot be brought together at all, P, B, and M will then be defective also.

(c) Recessive mandible: The P, B, M and S sounds are the ones most likely to be adversely affected.

(d) Prognathic mandible: The chief problems here are the adjustments for S, Z, SH, CH, F, V, and TH sounds. The author agrees that with early habit training to prevent incorrect movements of the tongue, it is better to defer speech therapy until all orthodontics are completed. (e) General dental irregularities: Irregularities of the teeth such as congenitally absent or supernumerary teeth, particularly the upper lateral incisors, misplaced or imperfectly developed teeth can be the cause of inability to make necessary articulatory adjustments.

The author also points out the psychogenic speech defects may arise from oral abnormalities. These abnormalities may be the cause of tonal defects and the perpetuating of infantilisms in speech. Tongue tie is discussed briefly and it is concluded that this condition is misunderstood in relation to speech defects. If the tongue can be protruded as far as the lips, all articulatory movements should be able to be taught with compensatory movements.

General principles of treatment for the five above mentioned oral conditions are outlined most briefly. Six case histories with pictures of dental casts are presented as a conclusion in an attempt to show that some cases of malocclusion are the direct cause of speech abnormality and in others, the speech abnormality may be a determining factor in the production of a malocclusion.

Crying in the Dental Office. OROBKO, WILLIAM. A lecture given at the University of Alberta, Edmonton, Alberta. Sept. 1952.

Crying out in response to pain is a perfectly normal reaction, but crying when no pain occurs is a behavior problem. As a means of survival, human beings have definite emotional responses

to dangerous situations and are accompanied by definite physical symptoms. It is normal for a child to be fearful when placed in a situation which appears to him to be dangerous. Few young children tend to faint until after adolescence, but do tend to cry out more often. Therefore crying may relieve the physiological tension.

In dealing with a crying child, the operator should never show emotion. He should control the child by a calm quiet voice and use slow unhurried sure movements. Morning appointments or early afternoon appointments are suggested and the children taken in groups rather than alternately adult and the child. In a family, take the child that does not cry first, and then the crying type next. Crying does seem to vary on certain days and whether barometric pressure, atmospheric and climatic conditions have some trophic action on the human is not as yet understood.

Twenty eight causes of crying in a dental office are discussed along with some remedial measures. The normal response to pain heads the list, others are: (2) Immaturity of a child. (3) Fear, not pain, is the chief cause of crying during dental attention. Fear may increase to terror which may turn into a phobia exclusive of all rationality. Fear may be either natural, acquired or conditioned. (4) Crying as a means to avoid an unpleasant situation. (5) Crying as an attempt to control a situation. (6) Spoiled child. (7) Low mentality. (8) Sick child (undernutrition is a factor here). (9) Tired child. (10) Nervous crying; here the dentist should be tolerant, during certain operative procedures. (11) Response to unusual noises and vibrations.

(12) Responses to unusual pressure, especially during an extraction even though the anaesthesia is profound. (13) Conditioning to white jackets, nurses uniforms, etc., in young children. (14) Shyness. (15) Disappointment (a universal reason for crying). (16) Notional—some children tend to cry on certain days for apparently no reason. (17) Temperamental and hysterical children which runs to temper tantrums. These are unstable and insecure children. (18) Habit. (19) Children who have little or no association with other people. (20) Feeling of insecurity. (21) Lack of love or attention. (22) Feeling of inadequacy —especially in older patients. (23) Anger—which may turn to rage and hatred. (24) Worry—outside problems when confronted by a dental situation may produce crying. (25) Jealousy or to attract attention. These children may become tense, irritable and whiny. (26) Frustration—when taken away from a pleasant situation. (27) Response to strong irritants. (28) Lack of attention by the dentist often results in tears by a nervous child. May happen when the dentist talks to the parent while working on a shy child.

It is to be seen therefore that certain types of crying should be tolerated, and others prevented at the onset. Understanding the cause of crying will help the operator manage behaviour problems.

Around the Country

New Offices

Dr. Curtis C. Darby has reopened his office in Fresno, California after returning from active naval duty. Dr. Darby limits his practice to dentistry for children.

* * *

Doctors D. B. Chatterton, A. L. Anderson, and J. C. Longley have opened a new Children's Dental office in San Diego, California. Other members of the staff include Dr. J. D. McGaugh, Pedodontist, Doctors W. C. Reed and B. W. Lueck, Orthodontists, and June Nyblade, Hygienist.

* * *

Dr. Fred Jentz is back from the service and has reopened his office at 14702 E. Jefferson, Detroit.

* * *

Dr. A. M. (Gunnie) Rose moved to Southold, Long Island, in January where he is emphasizing Pedodontics in his practice. Dr. Rodger Poole has acquired Gunnie's office in Upper Montclair, N. J.

* * *

Doctors Herbert Seberg and John Seberg of Hastings, Nebraska have new offices which include space for two physicians.

* * *

Dr. Arlo Dunn, Orthodontist of Omaha, Nebraska, has recently completed a new office and residence building. At the St. Louis meeting of the A. D. A., Arlo was made a Fellow in the American College of Dentists. Congratulations

Midwest

On September 22, 1952, Dr. Bert Dienstbier of Omaha gave a clinic before the Central District Dental Society at York, Nebraska. His topic was "Twenty-four Useful Hints for the Dental Office."

* * *

Dr. and Mrs. Harold W. Heinz of Beatrice, Nebraska traveled into Mexico recently. They had the pleasure of making the acquaintance of Dr. J. Aruffe, Aqua Prieta, Sonora, Mexico. Dr. Aruffe states that due to the extremely low income of many of the people, the children of Mexico get only emergency dental treatment.

* * *

Dr. Ellen Kelly of Omaha, Nebraska became a grandmother again when Dr. Patricia Hahn, the former Pat Kelly, had a daughter Deborah Ellen on May 18, 1952.

Dr. Kelly's sister, Mrs. Elsa Lundberg of Stockholm, Sweden, spent three months with her this summer.

* * *

Dr. R. J. Engel of Omaha, Nebraska attended the N. A. D. A. Convention in St. Louis in September. From there he went to Jasper, Alabama to visit his mother, brothers and sisters. Mrs. Engel joined him there for an extended visit.

* * *

Dr. and Mrs. M. A. Burton returned October 27 from a five-week fishing trip

spent on both the Western and Eastern slope of the Colorado Rockies. They returned with two deer and plenty of nice trout. Dr. and Mrs. Burton reside in Falls City, Nebraska. How about a fishing appointment for next fall, Doctor?

* * *

Dr. Gordon E. Ehlers of Howells, Nebraska attended the refresher course in Pedodontics last June sponsored by the University of Nebraska and the State Department of Health. Dr. and Mrs. Ehlers attended the Colorado-Nebraska game and the alumni dinner preceding the game, sponsored by the Denver Alumni Association. They enjoyed meeting many old Nebraska friends there, including a number of Nebraska Dental graduates.

* * *

Dr. Lyle Furst of York, Nebraska attended the National Convention of Sertoma Club International at Houston, Texas before reporting for military duty August 6, 1952.

* * *

We were glad to find Dr. L. T. Hunt of Lincoln, Nebraska again in his office after an absence of two months. Part of the time was spent at the Mayo Clinic.

* * *

Dr. James R. Sutton, who formerly practiced in Fremont, Nebraska, entered the School of Orthodontics at the University of Southern California last summer.

* * *

Dr. and Mrs. T. P. Mullins of Chadron, Nebr. had some pleasant experiences last summer. They took a month's vacation visiting the Dr. Howard Rapers in Albuquerque, the George Inghams in Amarillo, Texas, and the H. A. Larsons in San Antonio. They saw the Evangeline country in Louisiana, visited New Orleans, then drove through Mississippi, Alabama and to Fort Benning, Georgia where they visited their grandsons.

* * *

Dr. Benjamin L. Lynch was elected President of the Dental Staff of Children's Memorial Hospital of Omaha, Nebr. Dr. Lynch has a big job to do to develop a program for carrying out dental treatment for children under general anesthesia, and I know he's just the person to do it.

With Our Armed Forces

Dr. C. Elwood Laine of Pasadena, California and Dr. Jim Leib of Santa Monica, have both closed up their pedodontic practices to see the world through a porthole. We will try to keep you posted, fellows, and hope you get back soon.

West

Fran Summers, the Head of the Pedodontic Department at the University of Southern California, delivered a lecture on "Child Management" that will long be remembered. In fact, one student didn't regain speech for a week. The surprise element works wonders . . .

* * *

Miss Betty Byron had a five month tour of Europe this year and we were very happy to hear that she made an extensive study of oral hygiene in Casablanca, French Morocco, North Africa. Welcome home, Betty B.

* * *

Doctors A. L. Everett, Hugo Kulstad, and Elsie Schildwachter composed a committee of the Southern California unit for the 1953 Post Graduate Conference.

The essayist and clinician was the capable Maury Massler of Chicago. Subjects discussed were, Oral Habits, Mouth-breathing, Oral infections in Children, Fears in Children, and Topical Fluoride Applications.

Wedding Bells

One of the very eligible bachelor-orthodontists in Los Angeles was married in Beverly Hills, November 7. Dr. George N. Boone and Miss Mary Lou Openshaw, daughter of Dr. and Mrs. David Openshaw are the newlyweds. Congratulations.

* * *

Dr. Leo A. Ambrose of Omaha, Nebraska was married at Sutton, Nebraska to Miss Frances Leininger. Mrs. Ambrose is a Registered Nurse and teaches at St. Joseph's Hospital in Omaha.

East

Dr. John K. Heindel, President-elect of the New Jersey Unit, arranged a fine Mid-winter meeting on January 7 in Jersey City. Clinics were given by Doctors H. M. Berry, R. E. DeRevere, W. M. Krogman, J. H. Sklaroff and Ray Werther. Dr. Joseph Volker, Dean of the School of Dentistry, University of Alabama, was their chief speaker.

* * *

Greater New York's Oral Hygiene Committee again stressed four aspects of dental care in their program for Children's Dental Health Week. They were: 1. The Bitewing X-ray, 2. Tooth Brushing, 3. Nutrition, and 4. Fluoridation.

The activities for the week were divided into both a program for the profession and a program for the public. Prominent personalities joined in support of the program.

Dentists, hygienists and assistants all around the country have combined their efforts with those of the parents, educators, and health officers, interested in the welfare of children to advance toward the common goal—which is the achievement of better dental health for our young citizens.

* * *

Dr. Norman H. Denner, of Cleveland, forwarded information that their Western Reserve University Dental Research Center has been awarded a grant to continue and expand their program. They will establish and operate within Babies' and Children's Hospital a dental clinic for children affected with cerebral palsy. That is good news, Norman.

With the fifth Annual National Children's Dental Health Day just past, we ought to remind you that Norm is really the founder of Children's Dental Health Day.

* * *

Dr. William J. Ream, Akron, Ohio, sends news that the Summit County Department of Health and Boards of Education have a new Mobile School Dental Clinic which visits twelve county schools.

* * *

Doctors Tossy and Donnely of the Michigan Public Health Service arranged a combined dinner-movie for the Southwestern Michigan group at the Dearborn Inn. The wives and dental assistants were invited. All enjoyed the movie entitled, "The Dental Assistants and their Effective Utilization."

* * *

In Toronto last November, Louis Braun was elected President-elect of the Great Lakes Society of Orthodontists.

* * *

Dr. Ralph L. Kendall, President-elect of the New York State Society of Den-

tistry for Children, arranged a very good Mid-year meeting in New York City on December 7th. This was a Tri-state conference on Dentistry for Children in conjunction with the New Jersey and the Pennsylvania Society of Dentistry for Children. Table clinics were given by Doctors R. M. Butler, Wm. Joule, Joe Keller, Louis Kelston, Roger Poole, Armand Rose, and Walter Weisz.

Dr. Sidney Kohn was the chief essayist.

Diaper Derby

A son, Michael John, born October 25 to Dr. and Mrs. Edward F. Domalakes of Boys Town, Nebraska. He joins a brother, Richard, and a sister, Mary Susan.

* * *

Their first child, a son, John Richard, was born on November 18 to Sophia and Joe Britton, Omaha.

Opportunity

Two fellowships have been established by the Dental Guidance Council for Cerebral Palsy and sponsored by the United Cerebral Palsy of New York City, Inc., to train dentists in special medico-dental problems in the treatment of children with cerebral palsy. Each fellowship carries a stipend of $3000 to $3600.

The Cerebral Palsy Fellowship is a two year full-time program and includes applied basic science courses and medical and dental courses in various aspects of pedodontics and cerebral palsy. During the second year there is emphasis on complete in-patient and out-patient cerebral palsy dental service.

Application for the Cerebral Palsy Dental Fellowship should be made not later than May 1, 1953. For further information write to Dr. Barnet Levy, Director, Postgraduate Division, School of Dental and Oral Surgery, Columbia University, 630 West 168th St., New York 32, N. Y.

A Postgraduate Course in Oral Pediatrics

Five consecutive days, 9 a.m.–5 p.m., June 15, to 19, 1953; tuition $125.00; class limited to 12.

This course will be conducted by Dr. Kenneth A. Easlick, Professor of Dentistry, University of Michigan. It will consist of lectures, didactic instruction, and clinical work by the participants under the supervision of Dr. Easlick assisted by the Staff of the Department of Oral Pediatrics of Tufts Dental School. The curriculum will include:

Management of the Child Patient
The Morphology of the Primary Dentition
Cavity Preparation and Restoration of Primary Teeth
Restoration of Fractured Incisors
Pulp Therapy for Primary and Young Permanent Teeth
Development of the Teeth and Jaws
Treatment of Developmental Problems
X-ray Diagnosis
Office Management and Economics in a Children's Practice

For application write the Director of Graduate and Postgraduate Studies, Tufts College Dental School, 136 Harrison Ave., Boston, Mass.

* * *

Every A. S. D. C'er can quickly find his friends all around the country now with the new membership directory which we are all very glad to have.

American Society of Dentistry for Children

OFFICERS 1952–53

George W. Teuscher ..... *President*
Hugh Keenan ..... *President-Elect*
Willard T. Hunnicutt ..... *Vice-President*
Henry M. Wilbur ..... *Secretary-Treasurer*

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NOTICES

Of the 18 candidates who took the examinations of the American Board of Pedodontics held February 3–6, 1953, at Ann Arbor, the following candidates were successful and have been duly certified as diplomates of the Board.

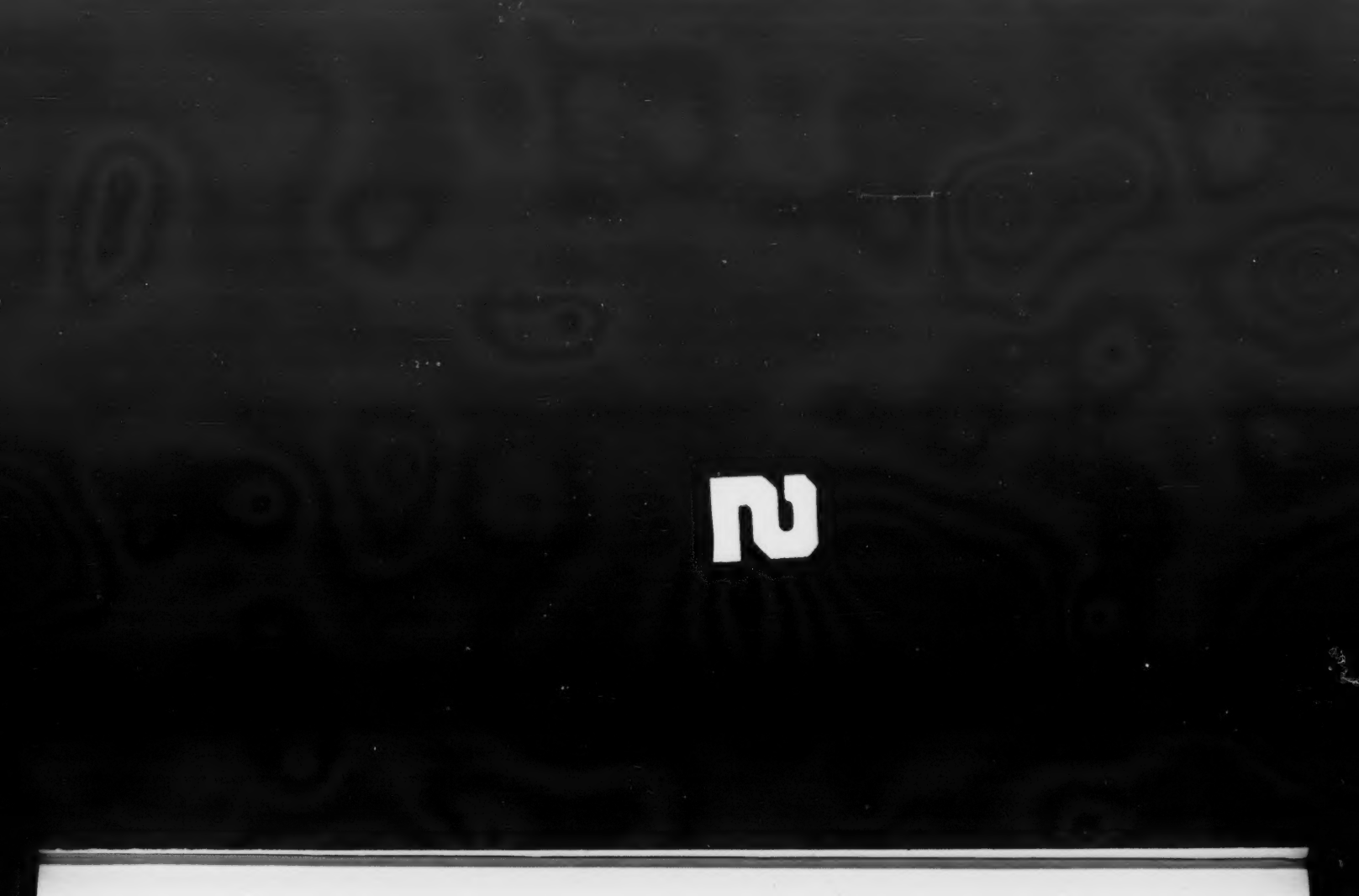
RALPH L. IRELAND, *Secretary*
American Board of Pedodontics

1. DR. RALPH E. MCDONALD, School of Dentistry, Indiana U., Indianapolis, Indiana
2. DR. PAUL F. SYDOW, Framingham, Massachusetts
3. DR. WILLIAM E. BROWN, School of Dentistry, Univ. of Michigan, Ann Arbor, Michigan
4. DR. WILLIAM GEORGE SEIMS, JR., Seattle, Washington
5. DR. EARL LAMPSHIRE, Lincoln, Nebraska
6. DR. BERNARD A. SMITH, Oakland, California
7. DR. CHARLES J. MEHLUM, Phoenix, Arizona
8. DR. LYONEL S. HILDES, White Plains, New York
9. DR. SIDNEY M. KRONFELD, New York, New York
10. DR. WILLIAM W. DEMERITT, U. of N. Carolina, Chapel Hill, North Carolina
11. DR. CORVIN F. STINE, Evanston, Illinois

Official A. S. D. C. headquarters at Cleveland, Ohio, September 26 and 27, 1953, will be at the Carter Hotel. We suggest you fill out this coupon as below and attach it to the reservation you send to the A. D. A., so that you may be sure of being housed at our own hotel headquarters.

I am a member of the American Society of Dentistry
for Children and desire to be housed at the Carter Hotel.

Signed .....



Congratulations!

On behalf of the members of the American Society of Dentistry for Children, we con-

from your president's pen

gratulate President Teuscher on his appointment as Dean of the School of Dentistry, Northwestern University. Good luck to you, George!

THE ROLE OF THE CLINICIAN

The profession of dentistry consists of several divisions of related activities, all of which are important to the proper administration of adequate dental service. Each of these divisions has attracted to itself men and women of ability who devote themselves enthusiastically to their work. Dentistry has its teachers, researchers, organization workers, publicists, social workers, public health workers and clinicians. All of them are important, for all of them contribute to the smooth functioning of the whole profession; directly or indirectly each aims to develop a better clinician.

The clinician is the one who above all others determines the status of the profession, who makes it respected or disrespected. It is he who should know the work of the others, try to understand it, interpret it, and ultimately apply it in the treatment of patients. The clinician carries a very heavy responsibility and a very great opportunity to serve society, if he wills it. If he is to keep abreast of his responsibility and his opportunity, he can have little time for leisure, for his role requires that he devote the major portion of his energies and most of his time to his profession.

Research in dentistry has increased manyfold and to keep abreast of it is a Herculean task; but the clinician must in some way do so, for only through him can society gain from that research. In his daily service to his patients, he owes them the best of himself and of his profession.

In pedodontics the clinician has an even greater responsibility because he sees the patient through the periods of rapid growth and development and he must attempt to establish what is normal or abnormal for the particular patient, as well as to predict the effect of certain conditions on the eventual development of a well-functioning and esthetically pleasing dentition. His task is not an easy one, but it is just this fact that attracts men and women to pedodontics; it is one of the many reasons why working with children is so gratifying.

GEORGE TEUSCHER

Is Vital Pulpotomy Worth while?

EVELYN M. STRANGE, D.M.D.*

Editor's note:

The pretty young lady who presents to our readers the accompanying evaluation of the pulpotomy technic works with Ruth Martin at Washington University. A graduate of Univ. of Oregon School of Dentistry in 1950, married in 1948, Evelyn and husband Frank expect to return in September to Portland where she will do pedodontics and he will practice clinical psychology.

A member of the A.S.D.C., Evelyn's avocations are those wifely attributes of cooking, sewing and interior decorating (no pun intended!!), so we feel sure she and Frank will write another edition of that text on how to be successful in life.

A. E. S.

THE object of this report is to present the findings from a clinical evaluation of the vital pulpotomy technic used to treat the exposed pulps of primary and young permanent teeth.

For several years the vital pulpotomy technic has been performed by the undergraduate students in the Children's Clinic of Washington University School of Dentistry. In an effort to determine the success or failure of the technic used, a group of patients was recalled for check-up examinations. This group of 64 cases was chosen at random from clinic patients who had received dental service during 1948, 1949, 1950. From this group 19 patients had either moved from the city or failed to keep the appointment for the check-up examination. The remaining 45 were examined clinically and radiographically.

Twenty-nine or 64% of the 45 cases checked were pulpotomies placed in primary teeth and 16 or 36% were pulpotomies performed on permanent teeth.

At the time the pulpotomies were performed a short history was recorded in each patient's chart by the student and all cases had radiographs taken before the procedure began. The cases were selected as suitable for pulp amputation if there was an absence of necrosis, periapical involvement or history of chronic disease.

The vital pulpotomy technic used is described as follows:

1. The tooth in question was anesthetized. For lower teeth inferior dental and long buccal injections were used. For

* Instructor, department of Dental Pediatrics, Washington University School of Dentistry, St. Louis, Mo.

upper molars subperiosteal injections were used and for upper permanent anteriors a nasopalatine block injection was often necessary. It was sometimes necessary to supplement these injections with paradontal injections both mesially and distally to the tooth in question or in cases difficult to anesthetize, a 2% procaine solution with 1:50,000 epinephrine

TABLE I

	CENTRAL		CUSPID		BICUSPID		1ST MOLAR		1ST PRI. MOLAR		2ND PRI. MOLAR	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Primary.....	0	0	1	3	0	0	0	0	11	38	17	59
Permanent....	3	19	0	0	4	25	9	56	0	0	0	0

injected directly into the pulp chamber was effective.

2. To maintain a dry operative field, the tooth to be operated on was isolated by means of the rubber dam. If a tooth had a badly broken down crown, a copper band was contoured and cemented to place around the tooth in order to maintain retention of the rubber dam.

3. It is very important to maintain a sterile technique while performing a pulpotomy. To accomplish this, the rubber dam and surfaces of the tooth were swabbed with Tincture of Mercresin. Instruments were boiled or immersed in 1:2,500 Metaphen solution for at least 30 minutes. The working points of these instruments were kept within the folds of a sterile towel during the procedure. The towel, cotton pellets and swabs were sterilized, wrapped in a paper package and placed in a dry heat oven for one half hour at 320°F.

4. Large round burs (No. 6-11) and spoon excavators were used to gain access to the pulp chamber. Molar teeth were opened from the occlusal surface, anterior teeth were opened from the lingual in the area of the cingulum. The leathery dentin of the molar teeth was removed to the pulp, wherever necessary, and the sound dentin roof was removed from the remainder of the tooth until the entire occlusal surface of the pulp was practically exposed. A pellet saturated with phenol was placed in the excavation for a short time to help disinfect the exposed pulp tissue and any remaining dentin roof. A fresh bur was selected for the amputation.

FIG. 1. Lower first permanent molar previous to pulpotomy date: 4-25-49.

5. A large round bur was used to remove the remaining dentin roof and coronal portion of the pulp. To remove the pulp debris, a sterile cotton pellet with a trace of phenol on its surface was used. Occasionally it was necessary to use sterile cotton pellets saturated with Neosynephrine (1%) or with Adrenalin (1:500) in order to control hemorrhage. These saturated pellets were placed on the pulp chamber floor, covered with several dry cotton pellets and held in place for two

or three minutes with a pair of cotton pliers.

6. When the pulp chamber floor was clean, the amputated stumps of tissue in the root canals were covered with calcium hydroxide mixed to a creamy consistency with saline solution. Excess moisture was removed with a sterile cotton pellet.

FIG. 2. Lower first permanent molar after completion of pulpotomy date: 2-11-50.

FIG. 3. Lower first permanent molar check-up film of pulpotomy date: 3-18 52.

TABLE II

	SUCCESSFUL		UNSUCCESSFUL			
			Uns. Crown		Ins. Apex	
	N	%	N	%	N	%
Primary	26	90	0	0	3	10
Permanent	12	75	1	6	3	19

7. A cement base was placed over the calcium hydroxide paste and silver amalgam restoration placed unless the tooth was so weakened that a full-cast or ¾ crown were necessary to restore the tooth permanently.

This procedure was followed by a periapical radiograph of a permanent tooth or a bitewing film of a primary tooth.

All patients recalled for this study were examined with a mouth mirror and explorer for cavities and sensitivities to percussion of the teeth treated with pulpotomies. A follow-up periapical film was taken and a verbal report of the patient was recorded as to pain or loss of the tooth if such occurred.

After the x-ray films were read, the pulpotomies were judged as to being unsuccessful or successful according to whether or not there was a periapical involvement.

Primary teeth with pulpotomies lost by normal exfoliation as reported by the patient were regarded as successful.

Table #I shows the distribution of teeth involved and includes primary cuspids and molars and permanent centrals, bicuspids and molars.

Of the 29 primary teeth, 26 or 90% were successful and 3 or 10% were failures with resulting periapical infection and pain.

Of the 16 permanent teeth, 12 or 75% were successful and 4 or 25% were failures with one tooth or 6% being a failure due

to the lack of strength of the crown and the other 3 teeth or 19% being failures due to periapical involvement.

Thus, of the total pulpotomies performed, 38 or 82½% were successful and 7 or 17.5% were unsuccessful (Table II).

The pulpotomy cases that were checked as successful had been retained from 7–42 months to the date of check-up.

TABLE III

	PRIMARY		PERMANENT	
	S	U	S	U
1–6 M.	0	1	0	1
7–12 M.	4	0	1	2
13–18 M.	4	0	1	0
19–24 M.	2	2	0	0
25–30 M.	9	0	3	0
31–36 M.	1	0	5	0
37–42 M.	0	0	2	1
Q.	6	0	0	

Q = questionable.

Since the primary reason for the use of pulpotomies is the extension of the period of serviceable retention of the teeth, Table III indicates the results.

The successful primary teeth with pulpotomies were retained from 7–36 months and were still retained at time of examination. Six of the successful cases exfoliated and the exact period of their retention is questionable.

Of the three unsuccessful primary cases, 1 tooth was lost before a period of six months elapsed after the placing of the pulpotomy and the other two teeth were lost before 24 months after the operation.

The successful pulpotomies in permanent teeth have been in place ranging from 7 to 42 months to date.

Of the four unsuccessful pulpotomies in the permanent teeth, 1 was lost in less than six months after the operation, 2 in less than 12 months, and one was retained for 39 months. The last mentioned case was lost because new caries involving the distal of the tooth reinfected it and thus caused its ultimate loss.

Discussion

The results in this survey seem to point out that in carefully selected cases, the use of pulpotomies is indicated. This compares favorably with previous studies. (1, 2, 3, 4, 5, 6). A review of the literature revealed that Zander, Teuscher, Restarski, Hartsook and Easlick had used Calcium Hydroxyde in pulp amputation experiments with good results. The formation of a dentinal bridge over the exposed pulp stump and an intact odontoblastic layer were demonstrated.

Summary

1. Vital pulpotomies were performed by undergraduate students at the W. U. Dental Clinic on primary and permanent teeth.

2. For the pulpotomies $Ca(OH)_2$ and saline solution covered with zinc phosphate cement and amalgam were used.

3. 45 patients were re-examined with mouth mirror and explorer and a check-up periapical film was taken.

4. Cases were judged as successful or unsuccessful depending on absence or presence of periapical involvement.

5. Of the 29 primary teeth checked, 26 were successful, 3 unsuccessful. Of the 16 permanent teeth checked, 12 were successful, 4 unsuccessful.

6. Primary teeth at the time of check-up had been retained up to 36 months. Permanent teeth at the time of check-up had been retained up to 42 months.

7. The use of pulpotomies in the hands

of undergraduate students seems justified. This report supports previous studies.

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Make your plans and reservations now to attend the ANNUAL MEETING of the AMERICAN SOCIETY of DENTISTRY for CHILDREN at HOTEL CARTER in CLEVELAND, September 25–27, 1953. Carl Miller, President of the Ohio Unit, and Sam Robbins, President of the Cleveland Section promise that from the opening business sessions to the closing banquet Sunday evening in the beautiful Rainbow Room, you may look forward to a meeting befitting the traditions of the birthplace of CHILDREN'S DENTAL HEALTH DAY.

Around the Country

Items of interest for this column should be sent to Dr. John Gilster, 8608 White St., Brentwood, Mo.

MIDWEST

Dr. and Mrs. S. H. Jelinek of Brainard, Nebraska narrowly escaped a bad accident in February of this year. On their return from a plane trip to South America, their plane made a belly landing in Chicago. Luckily no one was seriously injured.

* * *

Dr. Cecil G. Muller, Omaha, was elected Secretary-Treasurer of the Johnson Alumni Club at their January meeting in Louisville, Kentucky. Frank Lamons, Atlanta, was chairman during the meeting. Frank is succeeded by Earl A. Shipard of St. Louis.

WEST

Doctors Edward H. Bohlmann and Paul Schiff of Westwood, California appeared on the program of the 5th District Dental Society, Los Angeles, in February. "Pedodontics" was the topic for discussion.

* * *

Dick Hallberg of Beverly Hills forwarded the following items of interest from the West—

Big Ben Rabinowitch of Los Angeles went to Cleveland February 1 and 2 to clinic and lecture on "Complete Root Canal Therapy for the Child Patient", "Fractured Incisors" and also on "Preventive Appliances for Children". Dr. Ben had two limited attendance clinics and one lecture in Cleveland and then on to Pittsburgh where he gave two lectures February 4th on "Diagnostic Problems in Pedodontics" and "Implantations". In Chicago, Ben gave a clinic before the Endodontic Society.

* * *

Welcome back, Al Anderson, from active duty with the U. S. Public Health Service. Dr. Al can intelligently discuss Woonsocket, Rhode Island, and an Indian Reservation in the Wilds of Arizona. His only comment is, "Don't take a chance on an Indian blanket."

* * *

Dr. Francis W. Summers was an essayist on Pedodontics at the Annual Chicago Midwinter Meeting in February. Also, in the busy month of February, F. W. S. addressed the Kansas City Dental Society, and the Kansas State Dental Association meetings.

* * *

Thomas "Slim" Havey addressed the annual Southern Illinois Dental Society meeting in April.

* * *

Maury Massler was an essayist at the 1953 A.S.D.C. Post Graduate Conference held April 1, 2, 3, and 4 at Hotel Coronado near San Diego, California.

* * *

Thanks, Dick, for all the news. It really helps out the column!

* * *

EAST

Sandy MacGregor of Toronto spoke on April 23rd before the New Jersey Society of Dentistry for Children. This was their annual meeting held at Atlantic City.

Harold Addelston gave a talk on pedodontics at a meeting of the Essex County Dental Society in March.

* * *

SOUTH

Henry Wilbur and the School of Dentistry at the University of Louisville are playing host to the Academy of Pedodontics meeting, June 24, 25 and 26. Brown Hotel is the headquarters.

* * *

NEW OFFICES

Cecil Muller of Omaha expects to move into his new office building in September. It is a beautiful two story brick building—the second floor being occupied by an insurance company.

* * *

Dr. and Mrs. Max C. Eckert are very comfortably located in their home and office combination in Gering, Nebraska.

* * *

HOBBIES AND ADVOCATIONS

Dr. Royce C. Swain of Omaha has gained national fame for his song writing. He has had half a dozen recorded and more published including his best known, "Twice as Much". Three weeks after this hit was recorded by the Mills Brothers, it was Decca Records' No. 1 on the best seller list, topped Billboard's best seller list, and was No. 1 on Music Guild of America list. Congratulations Royce. We'll be waiting for more of your song hits.

* * *

POSTGRADUATE COURSES

The University of North Carolina Announces Graduate and Refresher Courses. A fifteen month's graduate course in orthodontics, leading to a Master of Science degree, will begin in June 1953 under the direction of Dr. L. B. Higley.

A four-day concentrated course in pedodontics, including clinical work with patients, under the direction of Drs. W. W. Demeritt and John C. Brauer, will be offered from June 15–18, 1953.

Application for graduate or refresher courses may be made by writing the Dean, School of Dentistry, University of North Carolina, Chapel Hill, North Carolina.

* * *

Paul Mentag, an active member of our Michigan Unit, has returned from Service to a new office located at 14447 W. Seven Mile Road, in Detroit.

* * *

Sylvia Zappler, of our N. Y. Unit, has moved her New York City office to 25 Central Park West, where she will continue to limit her practice to pedodontics.

* * *

We trust that by the time this issue of our Journal reaches you, there will be a new Unit of our organization established in Hawaii, largely through the efforts of Dr. John Dawe, Director of the Strong-Carter Dental Clinic at Honolulu.

* * *

Those interested in studying practice management, periodontics and oral medicine will welcome news of several new courses in the field, sponsored by the Postgraduate Division of the N. Y. U. College of Dentistry at 209 E. 23rd St., N. Y. C. 10.

* * *

That energetic John Tocchini has undertaken the task of building a new cruiser for himself. It's to be a creation of his own hands, except for a new type atomic power engine and power transmission assembly! San Francisco Bay authorities are watching J. T.'s progress with a wary eye!

Kent Kohler of our Northern California Unit was the fellow responsible for that nice 3 minute health education tape recording played repeatedly over the radio during Children's Dental Health Week programs.

* * *

Rather belatedly from Editor Al comes a very newsy letter from that proponent of good dentistry for children in England, G. Scott Page of Tunbridge Wells, near London. Scott managed to get around to most of the clinic presentations on pedodontics at the International Congress last Summer as well as presenting his fine clinic on radiography in pedodontics. (Editor Al tells me Scott has a fine group of material). Sam Harris of Michigan, who is working on a world-wide project of Units of the A.S.D.C., has asked Scott to head up the organizational efforts in England. It was nice to hear from you, Scott, do it again soon, please!

* * *

"Tiny" Konickow, a recent graduate student of Ken Easlick's course at Ann Arbor, has set up his offices in Royal Oak, Michigan, near Detroit. Editor Al reports it is uniquely designed and very attractively finished, although at the time Tiny showed Al around, in April, the prospects of impending fatherhood were wearing Tiny to a shadow!! More about the latter later.

* * *

We credit the Bulletin of the New Jersey Unit with the following items: Congratulations to JOHNNY HEINDEL on the birth of a 9 lb. 5 oz. son, David, on January 15 . . . GUNNY ROSE'S new office at Southold, Long Island is about ready. They tell us it's a beaut . . . MILT COOPER, active for many years with ASDC, is now President of the Bergen County Dental Society . . . GEORGE H. McLELLAN of Boonton has been recalled to Naval Service at San Diego, California . . . ED BLACKMAN of Pitman is also back in the Navy at Cherry Point, North Carolina . . . HERB RADLER of Newark is again on active duty in the Navy . . . Our many members spearheaded the activities of National Children's Dental Health Week in February . . . MORRIS KELNER, former President of the Pennsylvania unit, sends his best wishes for the success of our Bulletin . . . Mrs. MADELINE K. WILKINSON deserves special commendation for her Dental News Letter published with the help of the Morris County Tuberculosis and Health Association . . . The Committee on Schools and Clinics of Essex County Dental Society is working on a countrywide plan to have children excused from school for dental service . . . HAROLD ADDELSTON, Past President of the New York Society of Dentistry for Children, gave a fine talk on pedodontics at a recent meeting of the Essex County Dental Society.

* * *

Manny Album, recently elected President of the Philadelphia chapter of our Pennsylvania Unit, has asked us to publish the following item:

"Announcement is made of the formation of the Academy For Oral Rehabilitation of Handicapped Persons.

The purposes of the Academy are to promote and maintain high standards of dental care and treatment of the physically and mentally handicapped persons. To encourage and assist dental practitioners to prepare and qualify themselves to treat physically and mentally handicapped persons. To promote research in all branches of dental care and treatment of the physically and mentally handi-

capped persons and to publish the results thereof.

The first meeting of the Academy will be held in conjunction with the annual meeting of the American Dental Association in Cleveland.

Information concerning the Academy may be obtained from: Dr. Manuel M. Album, 1930 Chestnut Street, Philadelphia 3, Pa."

Diaper Derby

Twins—Sandra and Stephen Spain—born to Dr. and Mrs. Merlin Spain of Omaha on March 14th. The Spains have one other daughter. Merlin limits his practice to Orthodontics and is the President of the Omaha District Dental Society.

* * *

Dr. and Mrs. E. D. Hibbard of York, Nebraska are the proud parents of a son, Edwin Mark, born December 30, 1952. That extra exemption for 1952 really helped didn't it, Ed?

* * *

Dr. and Mrs. John O'Neil of Omaha have a baby girl, the third addition to the family.

* * *

A 9 pound, 5 ounce son, David, born on January 15th to Dr. and Mrs. Johnny Heindel.

* * *

In Memoriam

Death came to Dr. J. R. Thompson, director of the Division of Dental Health, State of Nebraska. Dr. Thompson was very active in Public Health Dentistry and dentistry for children in Nebraska.

* * *

Dr. Thaddeus P. Hyatt, a founder of A.S.D.C. and pioneer in many technics of good dentistry for children.

* * *

This is the last column of the section "Around the Country" by yours truly. I have enjoyed editing this column and hope that you have enjoyed reading it, too. I want to thank each one of you who has forwarded items of interest to me. We have a fine Journal—let's keep it so.

Laren W. Teutsch

—and as a tribute to Laren, we would like to acknowledge his loyal, prompt and interesting contribution to our Journal. May your assignments in the Air Force be interesting and helpful to you, Laren, and may God grant you a safe return to your family and friends.

Al Seyler.

Make your plans and reservations now to attend the ANNUAL MEETING of the AMERICAN SOCIETY of DENTISTRY for CHILDREN at HOTEL CARTER in CLEVELAND, September 25–27, 1953. Carl Miller, President of the Ohio Unit, and Sam Robbins, President of the Cleveland Section promise that from the opening business sessions to the closing banquet Sunday evening in the beautiful Rainbow Room, you may look forward to a meeting befitting the traditions of the birthplace of CHILDREN'S DENTAL HEALTH DAY.

Effectiveness of a Penicillin-containing Dentifrice in the Control of Gingivitis and Oral Acid-producing Microorganisms

RALPH E. MCDONALD, D.D.S., M.S.*

Editor's note:

Ralph McDonald, author of this informative article on a penicillin dentifrice, is a graduate of Indiana University, having received his B.S. in 1942, D.D.S. in 1944, M.S. in 1951. He is a member of A.S.D.C., Xi Psi Phi, Omicron Kappa Upsilon and a diplomate of the American Board of Pedodontics.

Chairman of the department of Pedodontics at Indiana University School of Dentistry, Ralph is also a research worker and clinician on pedodontics, although his travelling from meeting to meeting is inhibited because of his tendency to air-sickness, which his two boys, 3 and 6, can't understand!

An apiarist and gardener by avocation, Ralph manages to keep himself as fit, happy and handsome as the accompanying photo indicates.

A. E. S.

THE use of numerous therapeutic dentrifrices has recently been advocated as a means of reducing the incidence of dental caries (1, 2, 3, 4). The purpose of this study was to measure the effectiveness of a therapeutic dentifrice, one containing penicillin, in the correction of gingivitis in children, and also by the use of a penicillin-containing dentifrice, to test previous studies regarding the reduction of oral acidogenic microorganisms which are considered to be associated with the caries process.

It has been reported that the number of oral Lactobacillus acidophilus can be reduced by the proper and conscientious use of a tooth powder containing penicillin (5). There have, however, been contradictory reports which indicate that no significant differences in salivary lactobacillus counts are found in a group of children using penicillin dentrifrice (6).

* Assistant Professor and Chairman of the Department of Pedodontics, Indiana University School of Dentistry.

Material and Methods

The investigation was conducted at an orphanage with the participation of 44 children. The children, 20 girls and 24 boys, ranged in age from 4 to 16 years, the average age being 10 years.

Each child was given an oral examination and the number of D M F teeth recorded. An oral kodachrome picture was taken with the teeth in occlusion to serve as a permanent record of the cleanliness of the teeth and the condition of the soft tissues.

The Snyder Colorimetric caries test (7) was used to denote possible quantitative changes in the oral acidogenic microorganisms. The test was chosen because of its simplicity and because it has been shown that an extremely close correlation exists between a negative color change and counts under 10,000 lactobacilli/cc. of saliva (8). Likewise, it has been shown that with counts above 10,000 lactobacilli/cc. color changes will take place in 24 hours, the degree of change being related to the number of organisms in the saliva.

Three saliva samples were obtained from each child during the week preceding the dentifrice study. One hour after a meal the children were given a piece of paraffin and instructed to chew so as to stimulate the flow of saliva. The children spit the saliva into a sterile specimen bottle, the collection period being of sufficient length to obtain approximately 5 cc. of saliva. The samples were then taken to the laboratory where .2 cc. of saliva were transferred to tubes of melted Snyder media (bromcresol green dextrose agar) held at 50°c., and then mixed and allowed to solidify, after which they were placed in an incubator at 37°c. The tubes were observed at intervals of 24 hours for three days in order to denote a color change from the original blue-green to varying degrees of yellow, which indicates the production of acid and the presence of acidogenic microorganisms. If the color of the media deviated from the uninoculated control tube at the 24, 48, or 72 hour observation a recording of a positive reaction was made on the child's card. If the media remained blue-green during the 72 hour observation period it was considered negative and the saliva without acidogenic microorganisms.

The children were next given a new toothbrush and a bottle of dentifrice. All of the bottles appeared the same except for the plain white label containing the child's name. One half of the children, without their knowledge had been given a penicillin-containing dentifrice while the other half had been given a neutral dentrifice. The day the dentifrice and toothbrushes were issued the children were divided into small groups and given instruction by a dental hygienist regarding the proper method of brushing their teeth. The housemothers were then instructed so that they might supervise the after-meal brushing routine. In order to eliminate the possibility of the children interchanging the dentifrice, the bottles were kept by the housemothers. After each meal the children were taken to the washrooms where the supervisors poured approximately 1 gram of powder into the hand of each child, observed the procedure and then again collected the bottles.

At the end of the first, second, and third weeks following the use of the dentifrice, oral kodachorme pictures were taken of each child and saliva samples were obtained. The previous methods were used in order to determine the positive reactions to the Snyder test at the end of each week.

After three weeks of supervised brushing all bottles of dentifrice were collected.

New dentifrice samples were then distributed so that those children who previously had had a neutral dentifrice would now have one which contained penicillin and the ones who had used the penicillin-containing dentifrice during the three week period would now use the neutral powder.

oral hygiene. It was evident from an examination of the pictures, taken at weekly intervals throughout the study, that in nine cases there was some degree of improvement in the gingivitis. A check of the type of dentifrice being used at the time the improvement occurred failed to show any correlation between a specific

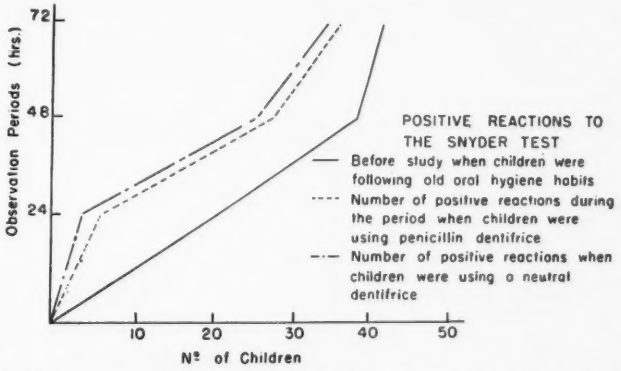

FIG. 1. A comparison of the positive reactions to the Snyder test while groups of children were following original oral hygiene methods, using a penicillin dentifrice and using a neutral dentifrice.

During the following three week period the previous brushing routine was followed and the same clinical and laboratory tests were made. Whenever it was seen that the children were missing certain areas of the mouth during the brushing they were given individual instruction to improve their technique.

PRESENTATION OF DATA

With the aid of a magnifying glass a close study of the series of kodachrome pictures taken at the beginning of the study indicated that there were 16 cases of gingivitis in the group of children. Several of the cases of gingivitis were characteristic of the type associated with the eruption of teeth, or were of the papillary or marginal type associated with poor dentifrice and improvement in gingival condition.

An attempt was made to compare the number of positive reactions to the colorimetric test which occurred before the study with those obtained while the two groups of children brushed their teeth with the neutral and penicillin-containing dentifrice. In fig 1. it can be seen that, while the children were following their old methods of oral hygiene, at 24 hours, 48 hours and 72 hours there were 21, 39 and 42 positive reactions respectively. An examination of the data obtained during the period when the penicillin dentifrice was being used shows that the number of positive reactions was reduced to 6, 28, and 36. The data obtained from the group using the neutral denti-

frice demonstrated that there was a comparable or slightly greater reduction in the number of positive reactions to the Snyder test.

closely parallel in both groups. It can be seen in fig. 3 that it was true to relatively the same degree in the group of children who during the first period used the

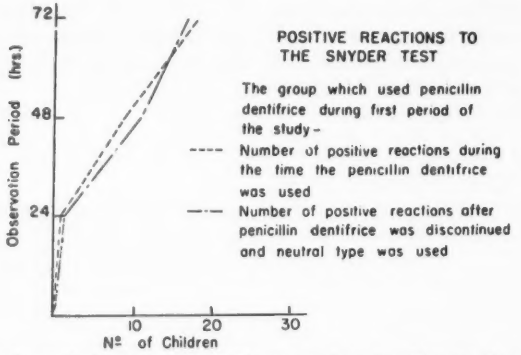
72
48
24
Observation Period (hrs.)
10
20
30
Nº of Children
POSITIVE REACTIONS TO THE SNYDER TEST
The group which used penicillin dentifrice during first period of the study –
---- Number of positive reactions during the time the penicillin dentifrice was used
—·— Number of positive reactions after penicillin dentifrice was discontinued and neutral type was used

FIG. 2. This demonstrates a close parallel in the number of positive reactions to the Snyder test during the time the penicillin dentifrice was used and after it was discontinued.

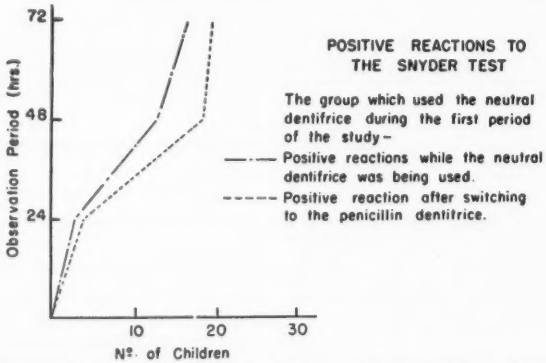
72
48
24
Observation Period (hrs.)
10
20
30
Nº. of Children
POSITIVE REACTIONS TO THE SNYDER TEST
The group which used the neutral dentifrice during the first period of the study –
—·— Positive reactions while the neutral dentifrice was being used.
----- Positive reaction after switching to the penicillin dentifrice.

FIG. 3. Demonstrates only a slight reduction in the number of positive reactions to the Snyder test when the change was made from the neutral to the penicillin dentifrice.

Data obtained from the group of children who used the penicillin dentifrice during the first three weeks of the study and the neutral dentifrice during the second three week period were then analyzed. It can be seen in fig. 2 that the distribution of positive reactions is

neutral powder and later switched to the penicillin dentifrice.

SUMMARY

A dentifrice study has been conducted in an orphanage with 44 children participating. The purpose of the study was

to determine the effectiveness of a penicillin-containing dentifrice in the control of gingivitis and in the reduction of oral acidogenic microorganisms. The study was carried on through a seven week period. During the first week preliminary data were obtained consisting of an oral kodachrome picture and three saliva samples for use in the Snyder Colorimetric test for the relative determination of the acid forming potentials of the oral flora. The group of children was divided into equal halves and without their knowledge one half used a penicillin-containing dentifrice for the first three weeks while the remaining half used a neutral type. At the end of three weeks the procedure was reversed and the children who previously had used penicillin powder were given a neutral type while the others were given one containing penicillin.

An examination of the results obtained from the Snyder test demonstrates clearly that the number of acidogenic microorganisms, as evidenced by a marked reduction of positive reactions to the Snyder test, can be reduced by proper toothbrushing after each meal. There was no statistically significant difference, however, between the results obtained from the group using the penicillin-containing dentifrice and the one which used the neutral dentifrice. The group of children who used the neutral dentifrice during the first period did not experience any additional benefit when the switch was made to the penicillin type. In other words, the number of positive tests was not significantly different. In the group which used the neutral type first there was not the anticipated decrease in the number of positive reactions when the change was made to the penicillin type.

In 9 out of the original 16 cases of gingivitis there was at least some degree of improvement shown during the observation period. It could not be demonstrated however that the penicillin-containing dentifrice was more effective than the neutral type.

Conclusions

1. A significant reduction in the positive reactions to the Snyder test can be obtained by following oral hygiene instruction and supervised brushing of the teeth immediately following each meal.

2. A dentifrice containing penicillin was not more effective than a neutral type in reducing the number of oral acidogenic microorganisms.

3. A proper toothbrushing routine is beneficial in the correction of gingivitis, particularly the type due to poor oral hygiene.

4. A penicillin-containing dentifrice was not more effective than a neutral type in the treatment of gingivitis.

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Considerations on Treatment of Thumbsucking*

MELVIN L. COHEN, D.M.D.†

THE treatment for thumbsucking is one of the most controversial problems confronting the dentist. Patients come to us seeking advice, and it is our obligation to render it to the best of our ability. As the methods of obtaining information on thumbsucking become more reliable and as the data are more thoroughly analyzed, we may modify our approach or verify our present methods. My rationale for treatment and treatment methods is described below.

I have arbitrarily divided the thumbsucking patients into two groups: (1) children who present before the eruption of the permanent teeth—4 to 5 years of age and, (2) children who present when the permanent incisors begin to erupt—5 to 7 and older. I do not treat the younger age group. My rationale for postponing the treatment is based on the following considerations: First, if the patient has an hereditary potential for a good occlusion and has a balanced musculature, then cessation of the habit prior to the eruption of the permanent teeth may result in remodeling of the alveolus with no lasting distortion. However, if the hereditary potential is for a malocclusion, and the musculature of the dental facial complex is not balanced, then the thumbsucking will merely aggravate the malocclusion. Therefore, I feel that the treatment for thumbsucking in the early cases of frank malocclusion is contraindicated since orthodontic treatment will be necessary in the permanent dentition. Long-term observations on a developing dentition by Lewis (1) and Sillman (2) are in agreement with this point of view.

Most parents today in our psychologically conscious society, either by consultation with their pediatrician or by reading periodicals and newspaper articles, are somewhat aware of the psychological implications of thumbsucking. Nevertheless, the possibility of poor feeding, lack of love and affection, and poorly or inadequately directed energies, may be factors in thumbsucking about which the parent is unaware. Hence, if I note a very obvious cause for maladjustment, I may refer such patients and parents for psychological and psychiatric consultation.

The 5 to 7 year old thumbsucker presents a different problem. His habit may cause lasting and permanent damage to his occlusion, therefore measures should be taken to break the habit. The following treatment is suggested: (1) First I talk with the child about the habit. Often he is old enough to understand and can be reasoned with. A kind, friendly attitude and the avoidance of parental paraphrasing of answers will help. At this point, I usually indicate that I realize he means no harm by thumbsucking but that if he continues, he may bring about a disfigurement comparable to some severe malocclusions shown on models. The object is to initiate the desire and the responsibility with the child. (2) I talk to the parent in the child's presence and suggest that the parent act as a reminder when the thumbsucking occurs. No tone,

* Read before the Massachusetts Unit of the American Society of Dentistry for Children—November 1951.

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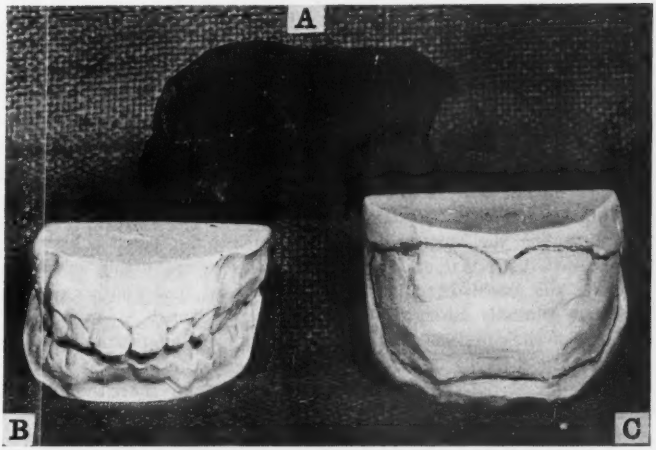

FIG. 1. Models for making shield. A. Compound buccal impression showing inner surface. B. Plaster model poured up from buccal impression. C. Model on which plexiglass was pressed, made from previous model (B) by filling in the irregularities with soft plaster. The area of the maxillary central incisors is relieved about 3 mm.

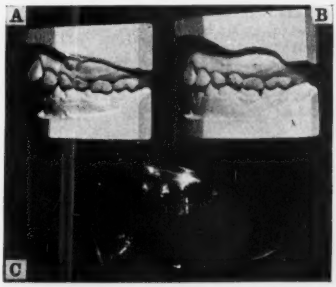

FIG. 2. Models and shield—A. Before treatment. B. After treatment—1 year 3 months. C. Plexiglass shield.

manner or attitude of censure or reprimand can be tolerated for the child may resent such treatment and resort to thumbsucking for solace.

If the patient is primarily a night thumbsucker, my method of choice is the plexiglass night shield. This appliance was first introduced by Warwick James

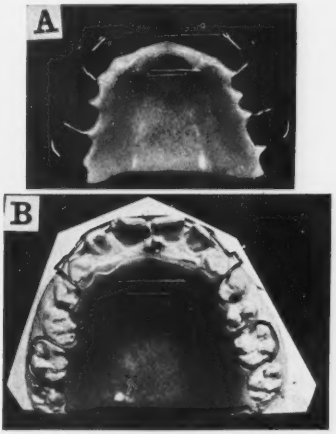

FIG. 3. Removable appliance with anterior elastics and palatal bars. A. Appliance made with .032 chrome-alloy. B. Same appliance on model showing elastic pressure against teeth, palatal relief of the acrylic, and palatal bars where thumb would be placed.

in 1913 and consisted of a wire frame and rubber dam stretched across it. In its present form it is made by conforming warm plexiglass against a mold which is made by filling in the irregularities of a model poured up from a vestibular impression. (figure 1) The shield which is worn between the lips and the teeth acts as a habit breaker and also an orthodontic appliance retruding the anterior teeth. (figure 2) Success depends upon the continuous use of this shield. If the thumbsucking occurs primarily during the day, my appliance of choice is the removable acrylic stayplate with palatal bars to discourage the thumb habit, and anterior elastics to returde the incisors. (figure 3)

Discussion

The lack of consistency in treatment of thumbsucking stems directly from the confusion in thinking and writing on the subject. On the one hand, Massler and Wood (3) indicate that sucking, including thumbsucking, is a part of the normal behavior pattern of the infant. On the other hand, Lawes (4) concludes that all acts of thumbsucking are a definite indication of a psychological disturbance and should be treated wholly on the basis of this disorder. At the Harvard School of Dental Medicine, repeated interviews with the parents of twelve thumbsuckers showed that six of these patients had marked emotional conflicts; the other six were completely non-contributory. It seems to me that it is high time for a group effort consisting of psychiatrist, psychologist, pedodontist and/or orthodontist to launch a longitudinal study starting with infancy and extending for the necessary five to eight years, to get at the answers and relieve the confusion!

Note: I wish to acknowledge the kind assistance of Dr. M. Michael Cohen in the editing of this paper.

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Make your plans and reservations now to attend the ANNUAL MEETING of the AMERICAN SOCIETY of DENTISTRY for CHILDREN at HOTEL CARTER in CLEVELAND, September 25–27, 1953. Carl Miller, President of the Ohio Unit, and Sam Robbins, President of the Cleveland Section promise that from the opening business sessions to the closing banquet Sunday evening in the beautiful Rainbow Room, you may look forward to a meeting befitting the traditions of the birthplace of CHILDREN'S DENTAL HEALTH DAY.

Unit News

Southern California

John Whitaker relates that the March meeting was an evening planned especially for the general practitioners who include children in their practice and was attended by 93 members and guests. After dinner the entire evening was devoted to the following clinicians and their "tricks" which make the practice of pedodontics more enjoyable:

Dr. Ed Bohlman—"Simple Removable Appliances"
Dr. Mode Perry—"Matrix for Multiple Amalgam Restorations"
Dr. John Whitaker—"Silver Amalgam Restorations"
Dr. Dick Halberg—"Fixed Gold Space Maintainers"
Dr. Irving Rubel—"Emergency Treatment of Fractured Incisors"
Dr. Al Anderson—"Fixed Anterior Bridge"
Dr. Al Everett—"Reasons for Space Maintenance"
Dr. Paul Schiff—"Child Management"
Dr. Roy Bourquin—"Nutrition"
Dr. Rex Waggoner—"Treatment of Fractured Anterior Teeth with no Pulp Involvement"
Dr. Jerry Anderson—"Saving Diseased Primary Teeth as Space Maintainers"
Dr. Ted Wendorff—"Therapeutic Treatment of Vital and Non-Vital Pulpotomies"

Because of the annual Southern California State Dental meeting in April there was no evening meeting but a joint breakfast was held with the Orthodontic Society on Monday, April 20th, at 8 A.M.

The annual Pedodontic Seminar was held at Hotel Coronado near San Diego, California, April 1–2–3–4. The speaker was Dr. M. Massler from the University of Illinois.

Michigan

Program chairman, Dr. Hugh Kopel, provided the Unit with another of his excellent programs by having Dr. George Teuscher of Chicago give a fine lecture on problems of pedodontics.

Dr. Teuscher's selection of slides was varied and well presented.

Our unit was honored by having some prominent men in pedodontics present for this meeting. The out-of-state guests were:

Lyonel Hildes, White Plains, N. Y.
Sidney Kronfeld, New York University, N. Y.
Earl Lampshire, Lincoln, Nebraska
Charles Mehlum, Phoenix, Airzona
S. N. Rosenstein, Columbia University, N. Y.
William Seimes, Seattle, Washington
Bernard Smith, Oakland, California
Ted Suher, Portland, Oregon
Paul Sydow, Framingham, Mass.
Laren Teutsch, Omaha, Nebraska

Nebraska

The N.S.D.C. held an all day session on March 23 at the Clarke Hotel in Hastings, Nebraska and program chairman, Sam Weinstein presented the fine program as follows:

Dr. Earl L. Lampshire, Lincoln Nebraska
"Demerol and co-medication in dentistry for children"
Dr. Wm. S. Kramer, Holdrege, Nebraska

"Endodontics as related to dentistry for children"

Luncheon and Business Meeting

Dr. James V. Huerter, Omaha, Nebraska
"The transition from school to practice"

Dr. Edward Domalakes, Boys Town, Nebraska
"Chlorophyll in dentistry"

Dr. M. C. Eckert, Gering, Nebraska
"Use of the rubber dam on children"

Northern California

Correspondent Eddie Mack informs your editor that in the last report the name of the new president was misspelled; it should have been John SOWDEN and NOT LOWDEN—SORRY—PLEASE EXCUSE—

Ohio

Another error that your editor has committed was corrected by Ohio's correspondent, E. Carl Miller. In the last issue the officers listed were for Cleveland but officers for the Ohio Unit are as follows:

President—E. Carl Miller, Cleveland
Vice President—H. E. Barlow, Akron
Sec. Treasurer—Thomas H. O'Reilly, Cleveland

Arrangements for the National Meeting of the A.S.D.C. are under way and the Ohio Unit is looking forward to showing all delegates that real Ohio hospitality. Whether you are a delegate or not do not miss this meeting.

Pennsylvania

The annual meeting of the Western Pennsylvania component of the Pennsylvania Society of Dentistry for Children was held on November 19, 1952, at the Odontological Rooms.

Officers elected for the year 1953, are as follows:

President—Dr. Mollie Davidson Foster
President-Elect—Dr. Walter S. Weisz
Vice-President—Dr. Geraldine Fay
Secretary-Treasurer—Dr. Edith J. Wisniewski
Executive Board Members:
Dr. C. W. Hagan
Dr. M. Binstock
Dr. S. J. Carver

After the business meeting, Dr. C. W. Hagan gave a lecture on a simplified method of cavity preparation on primary teeth and showed colored slides of this technique.

* * *

From Gus Tassman, program chairman of the Philadelphia Chapter comes the following:

On Monday evening, April 27th, in the auditorium of the Philadelphia County Medical Society building, the Dental, Medical, and Nursing professions joined hands in presenting a program on the importance of *all* aspects of the CHILD HEALTH PROBLEM.

Truly, this was a momentous meeting of vital interest to every practioner concerned with the medical and dental welfare of children.

The program dealt with two aspects of the CHILD HEALTH PROBLEM, namely, Nutrition and Fluoridation.

Dr. Arthur M. Dannenberg, prominent pediatrician, spoke on NUTRITION and how it influences the over-all health of the child, while Dr. Gerald D. Timmons, Dean of Temple University Dental School, acted as moderator for the Panel Discussion on Fluoridation, and how it affects the dental and medical health of the child.

The panel consisted of:

Dr. Norman R. Ingraham, M.D.—Acting Health Commissioner, City of Philadelphia.

Dr. Louis I. Grossman,—Department

Oral Medicine, University of Pennsylvania Dental School.

Dr. Herbert M. Cobe,—Department of Bacteriology Temple University School of Dentistry.

New Jersey

Our N. J. Unit reports a highly successful meeting on April 23 at the Traymore Hotel in Atlantic City. Speaker of the day was Sandy MacGregor of Toronto, Canada, who delivered his message in his usual capable fashion.

Louis Kelsten, Editor of the N. J. Bulletin is working hard to find a sponsor for the publication and if successful, will change its format and enlarge the issues.

New York

From the Bulletin of our New York Unit, edited by our good friend Joe Kauffmann, we glean the following about their doings:

The Annual Meeting of the N. Y. Unit was held May 13 at Hotel Statler in N. Y. C. The morning session presented Walter T. McFall, our "Evangelist," in his usual fine form, speaking on "Dentistry for Children Today." You may be sure Walter kept his audience at attention!

The afternoon sessions presented the following program:

TABLE CLINICS—2:30 to 4:30 P.M.

1. Newer Methods in Cavity Preparation
   Dr. Charles A. Calder, Dansville, N. Y.
2. Operative Dentistry for Children
   Dr. Leigh E. Fadden, Rochester, N. Y.
3. Tomorrow's Dentistry Today
   Dr. George Jackson, Pittsford, N. Y.
4. Dental Care for the Cerebral Palsied
   Dr. James Jay, New York, N. Y.
5. Caries Control in Children
   Dr. Joseph H. Kauffmann, New York, N. Y.
6. X-Ray Procedures in Pedodontics
   Dr. Hugh A. T. Keenan, Corning, N. Y.
7. Pulp Canal Therapy for Children
   Dr. Joseph J. Obst, Brooklyn, N. Y.
8. Presenting Periodontic Problems of Children to Parents
   Dr. Jane C. O'Malley, Buffalo, N. Y.
9. Pulp Capping
   Dr. Solomon N. Rosenstein, New York, N. Y.
10. The Soft Tissues and the Child
    Dr. Alvin M. Sackler, New York, N. Y.

VISUAL EDUCATION—4:30 P.M.

Title: Vital Pulpotomy Technic

Produced by the Department of Pedodontia

New York University College of Dentistry

The Meeting closed with the evening session presided over by Matt Besdine, retiring President, who turned the gavel of the office over to Ralph Kendall, his successor.

Diminished Flow of Saliva; Diagnosis and Dental Management

THEODORE SUHER, D.M.D., M.S.*, BHIM SEN SAVARA, B.D.S., L.D.S., M.S.* AND JOHN P. DICKSON, D.M.D.*

THIS paper presents the case reports of two children who suffered severe dental destruction because of decreased salivary flow. An attempt was made to: a) elucidate the etiology, b) to institute caries prevention and control measures for the maintenance of their optimal dental health.

REVIEW OF LITERATURE

A general discussion on the medical aspects of partial xerostomia has been adequately presented by Allington (1) in 1950.

The outstanding factors in the etiology of this disturbance have been enumerated as: atrophy, hypoplasia, or fibrosis (Mikulicz's disease, etc.) of the salivary glands; lesions of the central nervous system; lesions of the peripheral nerves supplying the salivary glands; psychogenic factors or mental shock, senile atrophic changes, radiation treatment and possibly avitaminosis A.

The salivary deficiency may be evident as the saliva is mucoid, sticky, bubbly and frothy rather than thin and watery. Pronounced deficiency or complete absence of saliva may cause changes in the oral mucosa, which usually appears normal when there is a moderate reduction (1).

The influence of saliva on dental caries has been studied extensively and the relationships of caries to the various organic and inorganic elements of the saliva have been investigated. In addition, the salivary rate of flow and viscosity have been suggested as influencing the caries process (Becks et al (2), Karshan (3), Burrill (4), Barany (5), Trimble (6), and others).

The experimental evidence concerning this relationship includes a very brief reference to the effect of extirpation of the salivary glands in dogs by Montgomery (7) who found that there was no change in the caries process. Cheyne (8) did more extensive work with this procedure in rats. Weisburger et al. (9) and Shaw and Weisburger (10) confirmed Cheyne's findings and established that in the rat the removal of its principal salivary glands resulted in a significantly greater number of carious lesions than in untreated control animals.

Faber (11) presents a review of the literature of this problem in children in which the dental effects are similar and severe. He cites four case reports of children with undeveloped or hypoplastic submaxillary glands and three cases of reduced lacrymal secretion which accompanied the reduced salivary secretion. Faber presents a case report of a 13 year old boy with rampant caries who had congenital absence of the parotid glands.

Case reports of adults with diminished salivation and severe dental destruction have been published by Gurley (12) and Saphir (13).

* Department of Pedodontics, University of Oregon School of Dentistry, Portland, Oregon.

Case Reports

Case I

L. M., female, first presenting herself for examination at 6 years of age, was born of the fourth pregnancy which was full term and uneventful. The birth weight was 7 lbs. 9 oz. The first two days after birth were spent in an incubator due to the aspiration of "some mucous material." During early infancy, the child's health was normal. The childhood illness experience was a mild infection of bilateral mumps at 2½ years of age. No physician was consulted. The mother noticed the dryness of the child's mouth and caking at the corners of the lips during the third year. She was unable to recall the presence of these symptoms prior to that time. There appeared to be no diminution in the secretion of the lacrymal glands or perspiration.

FAMILY HEALTH HISTORY

The child's parents, siblings and close relatives are alive, well, and have not shown similar tendency to caries susceptibility nor has any member of the family had any illness which could possibly be related to diminished salivary flow.

PHYSICAL EXAMINATION (MARCH 1952)

The child is cooperative but very nervous, tense and irritable. On the basis of her weight of 45½ lbs. and height of 49 inches at 8½ years of age, she falls in channel B_3 on Wetzel's grid for the evaluation of physical fitness and is regarded as being about eighteen months retarded in her physical development as compared with other children of her age. The physical examination was performed by members of the Department of Pediatrics, University of Oregon Medical School, and showed no abnormalities of the chest, heart or abdomen. Reflexes, sensations and tests for cerebellar function were all normal. The blood and urine analyses were also normal. Carpal radiographs showed that the skeletal age was in accord with her chronologic age.

ORAL EXAMINATION

A. Dental caries experience: The first primary teeth erupted at 8 months of age and, according to the mother, were "dark" in color. Some primary teeth were extracted and a few restorations were placed at 2 years of age. However, thereafter at 6 or 12 month intervals, additional primary teeth were removed because of advanced caries or periapical infection. When first examined at 6½ years of age, she had nine severely carious primary teeth and ten carious permanent teeth. Many of the primary teeth were only crown and root fragments and one first permanent molar presented a periapical infection due to advanced occlusal caries.

B. Oral tissues and saliva: The examination of the mouth revealed that the buccal mucosa and tongue were wrinkled and boggy and the gingival tissues slightly hyperemic and hypertrophied due to irritation from advanced cervical carious lesions. The lips were dry, caked, and, scaly. She had marked dryness of the mouth and the saliva was very thick and frothy. The measurable saliva produced by paraffin stimulation in 15 minutes was ¾ cc. The external orifices of Stensen's ducts appeared normal. Lateral jaw roentgenograms revealed no calculi in the salivary gland areas. Repeated lactobacillus acidophilus counts of the saliva have ranged from 75,000 to 200,000 per cc.

C. Salivary glands: 1) Injection of dye into parotid gland ducts revealed bilateral obstruction only a few mm. above

FIG. 1A. Sialogram of injected right parotid gland of Case I showing the accumulation of dye (arrows) at the orifice of Stensen's duct.

FIG. 1B. Sialogram of injected right parotid gland of Case II showing the normal distribution of this glandular system.

the orifice of Stensen's duct. Figure 1A is the sialogram of the parotid gland which shows the accumulation of dye at the site of injection. There was no penetration of the dye on either side. This is strong presumptive evidence of obstruction at the base of the duct of these glands.

first permanent molars and five permanent incisors as well as all the primary teeth and is wearing partial dentures (Figure 2).

In addition to the routine dental restorative and prosthetic services, the over-all plan of treatment attempted to establish the effectiveness of dietary

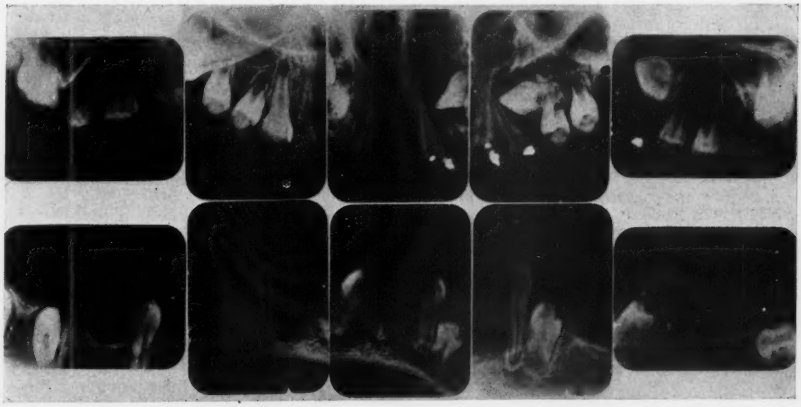

FIG. 2. Full mouth roentgenograms of L. M. (Case I), age 8½ years, showing the loss of the four six-year molars, five permanent incisors and the extent of caries in her permanent teeth. (Note the congenital absence of the lower right first and lower left second premolar teeth.)

2) Upon intramuscular injection of ⅛ gr. of pilocarpine hydrochloride, a powerful sialogogue, there was almost immediate and profuse flushing, perspiration, lacrimation, and salivation. The saliva produced in 25 minutes was 2 cc. and in 45 minutes 5 cc. It was very thick and mucoid in character.

TREATMENT PLAN AND PROGRESS

Attempts to restore the permanent teeth were made on several occasions, at first under general anesthesia because of her apprehension. At the present time, at 8½ years of age, she has lost four

counsel toward reducing the patient's caries susceptibility. Through a detailed analysis of her diet, the proportions of the various food elements were calculated. It was considered necessary to place the child on a low carbohydrate, high fat and protein diet to reduce caries susceptibility. The parents had no conception of the relationship of refined sugars to dental caries activity, and needed considerable guidance for presenting a balanced diet to the child. The response to these suggestions was at first dramatic, impressive and effective in reducing the number of lactobacilli/ml. of saliva. How-

ever, despite repeated counseling, warnings and demonstrations of new carious lesions, the patient and parent cooperation was not maintained and the incidence and advancement of new carious lesions in the past 18 months have been continuous and serious.

Oral hygiene has been repeatedly stressed in an attempt to impress the child with its importance as a possible aid in the reduction of her caries susceptibility. The proper timing and frequency of the daily toothbrushing, to remove the food particles immediately after eating, were emphasized. It was found that several demonstrations of the proper toothbrushing technique were needed for the education of the child and parent.

Although topical applications of sodium fluoride to the child's teeth were recommended, this was not done. No specific dentifrices were suggested because of the doubtful value of their ability to aid in the reduction of her caries susceptibility.

Case II

G. P., female, first presenting herself for examination at 9 years of age, was born of the third pregnancy which was full term and marred only by some edema of the mother's extremities due to impaired kidney function. The birth weight was 9 lb. 2 oz. The child was born with a right club foot, was severely cyanotic and experienced convulsions at birth. The child has apparently had facial and throat paralysis from birth as she exhibited no facial expression, no sucking reflex, no crying and has had very limited tongue action. The tear ducts were apparently closed at birth but have since been probed several times.

On the basis of apparent mongoloid characteristics and retarded speech, the child was diagnosed as "mentally and physically deficient" at 11 months of age. This has subsequently been shown to be incorrect. Although the child had difficulty with feeding due to paralysis, the adjustment during infancy was good and the physical development normal. The child had chickenpox, mumps, and whooping cough of average severity during childhood. She had the club foot correction at two years of age, T. and A. at 4 years, a bilateral ear infection at 6 years and adenoidectomy at 9 years.

The mother was not able to recall the first notice of dryness of the mouth and maintained that lacrymation and perspiration have been continually present.

FAMILY HEALTH HISTORY

As with Case I, the child's parents and siblings are alive and well and have not shown excessive caries incidence possibly related to any diminished salivary flow.

PHYSICAL EXAMINATION (MARCH, 1952)

The child shows no facial expression at this time and is slow to respond to directions, but calm and cooperative. She can smile very faintly, elevate the eyebrows bilaterally and partly extrude, but not elevate the tongue. With a weight of 84 lbs. and height of 49 inches, she falls in channel A_2 on Wetzel's grid and is regarded as being about twelve months advanced in her physical development as compared with other children of her age. The physical examination conducted by the staff at the Department of Pediatrics of the University of Oregon Medical School showed that the blood and urine analyses were normal, the basic metabolic rate was +22 and the remainder of the physical examination essentially normal. The consensus of medical opinion was that there is "some paresis of the 3rd, 4th, and 6th cranial nerves bilaterally. There is almost complete involvement of 7th and 12th cranial nerves, but the others appear to be in-

tact. The impression is that this child exemplifies congenital facial diplegia with involvement of other cranial nuclei, sometimes called 'Moebius syndrome'."

Carpal radiographs showed that the skeletal age was consistent with her chronological age.

B. Oral tissues and saliva: Examination of the mouth revealed that the gingival tissues and mucosa were normal. The lips were relatively dry and scaly and the saliva slight in amount and frothy. The measurable saliva produced in 15 minutes by paraffin stimulation was

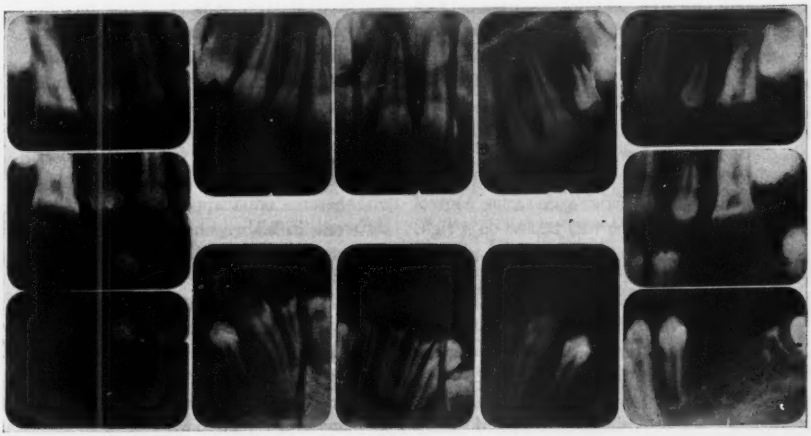

FIG. 3. Full mouth roentgenograms of G. P. (Case II), age 9 years, showing the loss of the two lower six year molars and the extent of caries in the permanent teeth. (Note the congenital absence of the four second premolars.)

ORAL EXAMINATION

A. Dental caries experience: The eruption of the primary teeth was on an average schedule, and it was noticed by the parents that the primary teeth were "turning dark" at about three years of age. Within a short period of time the teeth broke down rapidly and by six years of age all of the primary teeth and two lower first permanent molars had been extracted because of advanced carious destruction or periapical infection. When first examined at the age of 9 years, she had fourteen carious permanent teeth. Figure 3 illustrates the extent of the carious lesions at that time.

3 cc. Repeated lactobacillus counts of the saliva have shown that these bacteria ranged from 14,000 to 80,000 per cc.

The external orifices of Stensen's ducts appeared normal and the lateral jaw roentgenograms showed no pathosis of the salivary gland areas.

C. Salivary glands: 1) This roentgenogram of the injected parotid gland shows normal distribution of the glandular system (Figure 1B). This was found to be true bilaterally.

2) As with the other child the injection of pilocarpine produced an identical response of hyperthermia and hypersecretion. The saliva produced in 25

minutes was 4 cc., in 45 minutes, 10 cc. and was very thick and mucoid in character.

TREATMENT PLANTS AND PROGRESS

At the present time, at 10½ years of age, she has lost four first permanent molars and four incisors, has had a large number of restorations and is wearing partial dentures.

Here, also, the over-all plan of treatment was to attempt caries control through improved oral hygiene and dietary control with regard to the consumption of refined carbohydrates. In accord with the Michigan caries control diet plans (14), she was placed on a rigid low carbohydrate, high fat and protein diet. The number of salivary lactobacilli decreased rapidly and remained low for some months. This indicated relatively slight caries activity. As with the other child, the parents and patient have to be continually counseled lest the family eating habits allow the child more cariogenic foods. The cooperation has not been entirely adequate or complete but has significantly reduced the number of new carious lesions and has retarded their progress during the past 18 months.

Discussion and Summary

The case reports of two children with partial xerostomia and rampant dental caries have been presented. The literature describes the relative rareness of this pathological condition in children. However, the relationship of the diminished flow of saliva to caries activity has been verified by experimental procedures in animals.

The diminished flow of saliva in the children was readily apparent. Comparison of the salivary flow of these two children (L. M. produced ¾ cc. in 15 minutes, G. P. produced 3 cc. in 15 minutes) to the available norms (average of 14 cc/15 minutes) established this fact. (The total flow of resting and stimulated saliva of children has been measured; for children 5 to 14 years of age, Becks and Wainwright (15) reported a range of 3 to 111 cc/hr. for the resting saliva with an average of 17 cc/hr. For 9 to 12 year old children, McDonald (16) found the flow of activated saliva ranged from 3 to 50 cc. in 15 minutes with a mean of 14.1 cc.)

This report compares the similar clinical conditions of the dental health of these children, although the etiology of the xerostomia appears to be entirely different in either child. The cause for the obstruction of the parotid glands cannot be accurately established in Case I, but one may surmise that this child's dryness is based on congenital aplasia of the serous salivary glands. It is apparent that the child in Case II presents partial xerostomia on the basis of congenital facial paralysis or a lesion of that portion of the central nervous system which innervates the salivary glands. The simultaneous involvement or paresis of the other cranial nerves indicates that this child has suffered a rare disturbance of the various cranial nuclei and has recovered from the paralysis to a considerable extent.

These case reports further illustrate the value of special techniques for the confirmation of the etiology or pathosis of the diminished flow of saliva. The use of the sialogram or roentgenogram of an injected dye provides an excellent method of determining the existence and distribution of a glandular system. The injection of a sialogogue such as pilocarpine, which affects the autonomic (cholinergic) nervous system, shows the presence of normal salivary secretory function. In Case I, the response of thick mucoid saliva

after administration of this stimulant confirms the functional inactivity of the predominantly serous parotid glands. In Case II, the identical response of a thick mucoid secretion, in the presence of the demonstration of the normal parotid glandular system, signifies an obstruction or lack of the nervous pathways which control the secretory activity.

Of major dental interest is the contrasting response to the attempts to institute and maintain complete caries control measures. The experience has been that tremendous parental and patient cooperation is necessary to maintain dietary regimens consistent with caries control. It is very difficult to maintain children on a rigid low refined carbohydrate diet and optimal oral hygiene program over an extended period of time. However, it is apparent that some dental relief in the form of restorations and dentures can be provided for these children with some measure of success.

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Make your plans and reservations now to attend the ANNUAL MEETING of the AMERICAN SOCIETY of DENTISTRY for CHILDREN at HOTEL CARTER in CLEVELAND, September 25–27, 1953. Carl Miller, President of the Ohio Unit, and Sam Robbins, President of the Cleveland Section promise that from the opening business sessions to the closing banquet Sunday evening in the beautiful Rainbow Room, you may look forward to a meeting befitting the traditions of the birthplace of CHILDREN'S DENTAL HEALTH DAY.

The Retention of Infected Primary Teeth as Space Maintainers

R. M. Erwin Jr., D.M.D.
Portland, Oregon

TO THOSE of us who specialize in pedodontics, in exodontics, in orthodontics, and to those in whose general practice children are routinely served, the prevalence of retained infected primary teeth on dental advice as space maintainers has been and continues to be an alarming and irritating occurrence.

In the aforementioned types of dental practice it is a routine occurrence to have parents present their children with either chronic or acutely abscessed primary teeth and even retained roots and when advised of the necessity of extraction will exclaim, "Oh, but our family dentist has advised us not to have the tooth out, but rather to leave it so that the permanent teeth won't come in crooked!" Invariably this situation is also accompanied by the presence of other primary teeth in varying degrees of destruction. To practitioners who are sincere in rendering adequate health services to children this situation means but one thing. The other dentist has no interest in dentistry other than "crutch service", he's not concerned with the physical well being of his child patients, he deliberately ignores the operative need of operable teeth, and presents his profound but delayed interest in the primary teeth by not wanting the abcessed tooth extracted, when, the truth of the matter is, he is merely using such an excuse to avoid serving the child patient even under the circumstances of an emergency.

We, as pedodontists, are interested in the multiple functions of healthy primary teeth, properly retained with adequate professional services. Of these functions space maintenance is but one. It logically follows that when any one or a combination of these functions is impaired all others are likewise impaired.

I know of no pedodontic or orthodontic authority across the nation who advises the retention of infected primary teeth for any purpose, but routinely advises extraction when the tooth can not be restored to a safe, healthy function. This rule is constant even when due to parental disinterest or lack of funds mechanical space retainers are not to be provided, nor is the rule altered when the bicuspid is congenitally absent.

The reasons for such a policy are many. The presence of intraoral dental infection contributes to the lowering of physical resistance and the dissipation of general health.

Due to the close proximity of the successor follicle to the roots of the primary predecessor the retention of the infected primary tooth often causes preeruption enamel disintegration and possible malformation of the unerupted tooth. The permanent tooth upon eruption is then a ready victim to the process of caries.

The retention of the infected tooth in close relationship to the approximating teeth additionally endangers their enamel surfaces by affording mechanical retention of oral debris.

The infected primary tooth roots may not physiologically resorb and frequently

cause mal-eruption of the permanent sucessor.

Additionally the presence of dental foci of infection can be etiologic factors associated with bacterial endocarditis, inefficiency of vision, kidney disturbances, and many other physical maladies generally correlated and recognized in the adult case but too frequently ignored in the juvenile patient.

Furthermore to advise the retention of the infected primary tooth invites hours of needless suffering if cellulitis develops to say nothing of the actual danger to life itself of such developments when in their complicated conditions of involvement.

Efficiency of nutrition is impaired by the presence of the infected primary tooth as mastication is painful, food is not properly prepared for digestion, infected material is "pumped out" with the food, and being swallowed with the food adversely affects the stomach and reduces the appetite. Furthermore with sore and ineffective teeth the child instinctively selects soft, devitalized and non nutritious foods.

Many additional thoughts might be here expressed in regard to the "advised retention of an infected primary molar in the role of a space maintainer", but to conclude, these last thoughts should be presented.

Any primary tooth which cannot be restored to a safe degree of health should be completely eliminated from the mouth to avoid the invited development of any, or a combination of the above mentioned complications. Dentistry is admittedly a health service the application of which should be recognized and equally practiced in the mouths of the children who come to our offices.

To advise the retention of an infected primary tooth for any reason is in a sense an intangible act of mal-practice as the attending parent is seeking advice and service from one whom they think as being professionally competent, and to create a feeling of false security is a betrayal of that professional trust.

Finally I would urge those who do not see fit to serve children for restorative dentistry to at least advise the parents correctly and frankly, and not hide their disinterest in advice such as: "It's just a baby tooth, leave it in to save space so the jaw won't collapse and make the other teeth come in crooked."

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A Practical Technic for Bleaching Discolored Crowns of Young Permanent Incisors

GENE J. FRANCHI, D.D.S.*

THE discoloration of young incisors, following injury to their pulps, has been an exasperating but stimulating problem for dentists for many years. Hence, this paper will attempt to (1) review the past history of the methods of bleaching teeth, (2) discuss and evaluate the technics now in use, and (3) present the method that appears to have the best practical application for clinical use.

The bleaching process is dependent upon a chemical reaction between a compound having color and some substance capable of affecting its composition in such a manner as to change the integrity of the molecule producing the color and to destroy its identity (1, 5, 8, 10, 12, 13).

The earliest successful method for bleaching discolored teeth was recorded in 1864 when Truman used an indirect oxidizing agent, chlorinated lime (1, 6, 12). This method consisted essentially of liberating chlorine from the chlorinated lime by the addition of a weak solution of acetic acid.

Not until approximately 35 years later did Harlan introduce the use of aluminum chloride in connection with hydrogen dioxide as a direct oxidizing agent for bleaching teeth (2). This method consisted of packing the aluminum salt into the cavity and then moistening it with hydrogen dioxide.

Marshall introduced a technic in 1901 which employed an ethereal solution known as "caustic pyrozone (3)." The only outstanding changes from Marshall's method, today, are the refinements in the technic. This small historical review indicates that for many years dentistry has had successful methods for bleaching teeth.

Two general classes of substances have been utilized successfully as bleaching agents: (1) oxidizing and (2) reducing (4, 6, 8, 10, 12). The oxidizing agents are divided into two forms: (1) indirect oxidizers and (2) direct oxidizers. The oxidizing agents generally used are pyrozone, superoxol and sodium dioxide (7, 8, 11, 12). Each of these agents is a direct oxidizing agent since oxygen is liberated directly from the chemical (1, 5, 8, 10, 12). Chlorinated lime, an indirect oxidizing agent, is less generally used (1, 5, 8, 12). Its oxygen is indirectly derived from water (5, 10, 12). The reducing type of bleaching agent most commonly used is sulphurous acid (1, 8, 12).

Marshall (3), Grossman (9) and Ostrander (13) have used pyrozone principally in their technics for bleaching teeth. For the past 13 years, Ostrander has used pyrozone exclusively in his technic.

Evidence indicates that the direct oxidizers are the best bleaching agents due to the weak state of chemical combination in which one of the atoms of oxygen is bound to the water molecule (7, 9, 11, 12, 13). Many organic substances serve to disrupt the compounds and liberate oxygen atoms which combine directly with the discolored organic matter and change the color (2, 7, 11, 12, 13).

* Dental Director of the Lawrence-Wabash County Health Department, Lawrenceville, Illinois.

Of these direct oxidizers, pyrozone, a 25 per cent solution of hydrogen peroxide in ether, is preferable to all other agents because it utilizes ether as the vehicle. This ether vehicle imparts a lower surface tension to the compound allowing it to penetrate the dentinal tubules faster and more effectively (13).

Marshall (3), Grossman (9) and Ostrander (13) seem to have developed the three most practical technics for bleaching teeth. Of these, Ostrander's (13) method may be recommended since it is simpler, consumes little time and is a precise technic that has been refined by considerable clinical experience.

Marshall's (3) technic may be contrasted with that of Ostrander (which follows later) in order to note the refinements:

1. A piece of cotton saturated with pryozone was placed in the pulp cavity, but not on other portions of the tooth.
2. Blasts of hot air were used as an activator.
3. The cotton had to be changed every ten minutes, which consumes much of the operator's time.
4. No attempt was made to force pyrozone into the dentinal tubules.
5. Pink temporary stopping instead of white can lead to discoloration.
6. A long waiting period was necessary before placing a permanent filling in the tooth.

Grossman's (9) method, a further refinement of Marshall's (3) technic, also may be compared with that of Ostrander:

1. It utilized a magnifying glass to focus a No. 1 photo-flood light.
2. No attempt was made to force the pyrozone into the dentinal tubules.
3. The cotton in the pulp chamber had to be changed three or four times in a 30 minute appointment, whereas pyrozone forced into the dentinal tubules with an orange-wood stick prior to activation would have eliminated the changing of cotton.

Ostrander's (13) 13 years of experience with pyrozone indicates that pyrozone acts more readily and produces more lasting results. His technic follows in detail:

1. The opening on the lingual surface should be made sufficiently large to permit easy access to the pulp canal and the inner surfaces of the tubules but not so large as to weaken the tooth.
2. All fillings and root canal fillings in the pulp chamber should be removed since they will become disintegrated by the powerful action of the pyrozone and may form a new chemical compound which is capable of staining the tooth structure.
3. All of that portion of a root canal filling should be removed, which extends into the pulp chamber, a few millimeters beyond a level corresponding with the gingival margin, in order to bleach thoroughly that portion of the tooth in the event that recession of the gingival tissue occurs.
4. The soft tissues around the tooth to be bleached should be coated with vaseline for the protection of the gingival tissue.
5. A rubber dam should be placed, exposing only the tooth or teeth to be bleached. Double ligatures are utilized on the exposed teeth in order to prevent contact of the caustic bleaching agent with the soft tissues.
6. The tooth is dehydrated with a solution of chloroform one part and

ethyl alcohol three parts. Chloroform also serves to dissolve any oily substances present.

7. Loose strands of cotton are placed in the pulp chamber and a few drops of pyrozone placed on the cotton with a syringe equipped with a platinum tip.*
8. Pyrozone is forced into tubules with an orangewood stick and vulcanite tip* and held under pressure for one minute. The procedure is repeated until the required amount of pyrozone appears to have been forced into the tubules.
9. Loose strands of cotton are placed in the pulp chamber, the tooth is enveloped with loose strands of cotton and the cotton is saturated with pyrozone.
10. A No. 1 photo-flood light is focused on the tooth for 15–30 minutes.
11. A pledget of cotton moistened with pyrozone is sealed in the pulp chamber with white temporary stopping and cement and the patient dismissed.
12. The maximum bleaching is attained approximately 24 hours after treatment. If necessary, the bleaching is repeated in 48 hours.
13. After the shade of the tooth has been restored satisfactorily, the dentinal tubules are saturated with 80 per cent chloral hydrate to restore translucence, the excess is removed, the tooth dried, the cavity varnished with transparent varnish and a silicate restoration inserted.

* Pyrozone never should be handled with metallic instruments because it acts directly with metal to form soluble compounds, which, if carried into the tooth structure, will result in permanent staining.

This report has presented a brief history of the various agents used to bleach teeth and completed a comparison and evaluation of three technics employed for the bleaching of discolored teeth. Pyrozone appears to serve as the superior bleaching agent since ether as the vehicle imparts the advantages of (1) lower surface tension, (2) more rapid action and (3) more permanent results (2, 9, 11, 13). In a comparison with the technics of Marshall (3) and Grossman (9), that of Ostrander (13) may be recommended as a relatively simple and refined technic which consumes the minimum of time. It appears to have special significance for the children's dentist who has to treat so many young incisors that have been involved in accidents.

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TWENTY-FIRST ANNUAL MEETING
AMERICAN SOCIETY OF DENTISTRY FOR CHILDREN

ST. LOUIS, MISSOURI
September 5, 6, and 7, 1952
HOTEL MELBOURNE

Editor's note:

We are printing herewith the minutes of our 1952 Meeting to acquaint those of you who were unable to attend, with the activities of your Society.

A. E. S.

MINUTES OF THE EXECUTIVE COUNCIL MEETING
September 5, 1952

A meeting of the Executive Council of the American Society of Dentistry for Children was held on Friday, September 5, 1952 at 7:30 p.m. in the Xavier Room of the Hotel Melbourne in St. Louis, Missouri, with President Earl L. Lampshire presiding.

Executive Councilmen present—Drs. Lampshire, Teuscher, Keenan, Seyler, Kulstad, Rabinowitch, Hunnicutt, Jennings, Burdge, and Wilbur. Also present were the Chairmen of all Standing Committees and of all Annual Meeting Committees.

The meeting opened with the reading of the 1951 Executive Council minutes. They were approved as read.

President Lampshire proceeded to call for Committee Reports. Mimeographed copies of most committee reports were made available to all for the first time this year, thus making possible a more complete picture of the Society activities.

ANNUAL MEETING COMMITTEES:

1. Local Arrangements Committee—Dr. Roy M. Wolff, Chairman. Identification badges for the officers purchased this year become the permanent equipment of the American Society of Dentistry for Children and are to be returned after the meeting for use next year. Dr. Wolff recommended to future Local Arrangements Committee Chairmen that at least ten men be on the committee. The report was accepted with general praise for the wonderful work done by this committee. Motion to accept by A. E. Seyler/H. K. Addleston and carried.

2. Program Committee—Dr. Ruth Martin, Chairman was unable to be present and her report was given by Dr. John Holland. Motion to accept by H. K. Addleston/S. Kohn and carried.

3. Table Clinic Committee—Dr. John E. Gilster, Chairman. Motion to accept by H. Keenan/L. R. Burdge and carried.

4. Banquet Committee—Dr. Earl Bean, Chairman. Motion to accept by H. Kulstad/A. E. Seyler and carried.

SPECIAL COMMITTEES:

1. Military Affairs Committee—Dr. John Brauer, Chairman was unable to be present and his report was presented in mimeographed form. Motion to accept by A. E. Seyler/G. A. C. Jennings and carried. President Lampshire appointed a committee of Drs. Rabinowitch, Seyler and Hunnicutt to consider recommendations made in this report.

2. Committee on Executive Secretary—Dr. Hugo Kulstad, Chairman. It was recommended that the committee study this problem further and report at next year's meeting. H. Kulstad/A. E. Seyler made this motion, which was carried.

3. Committee on Constitution and By-Laws —Dr. Sam Harris, Chairman. After quite a lengthy discussion of possible changes to be recommended to the delegates at the annual business meeting, the report was received.

STANDING COMMITTEES:

1. Membership and State Units Committee —Dr. George W. Teuscher, Chairman. Dr. Jennings moved that the printed report be accepted.

2. Public Relations and Publicity—Dr. Jack Wisan, Chairman, was unable to be present. His report was accepted as printed. There was a discussion of the pamphlet "Pointers for Parents."

3. Professional Relations Committee—Dr. R. M. Erwin, Chairman. Report accepted as published. There was discussion of possible joint projects that might be carried on with the American Academy of Pediatrics and the American Academy of Pedodontics. It was recommended that further study be given to the matter of developing a Speakers' Roster.

4. Schools and Dental Boards Committee—Dr. Ralph Ireland, Chairman. The report, as published, was given hearty approval. The committee recommended that "the various state units and the appropriate society committees continue to encourage and assist those state examining boards who do not examine in dentistry for children to incorporate a set of questions on that subject in their examinations." The recommendation was accepted by motion of Ben Rabinowitch/L. R. Burdge and carried.

5. Community Dental Programs Committee—Dr. Al Anderson, Chairman. The report was accepted as published, with one correction on page one, item 4—"Every practical means to be used to discourage the consumption of carbohydrate snacks—refined sugars—by school children," should read " . . . discourage the consumption of *refined* carbohydrate snacks . . ."

6. Editorial Committee—Dr. Harold R. Klein, Chairman. Report accepted as published.

7. American Board of Pedodontics—Dr. Ralph Ireland, Secretary-Treasurer. The report was accepted by motion of George Teuscher/A. E. Seyler and carried.

8. Report of the Editor of the Journal of Dentistry for Children, Dr. A. E. Seyler, accepted.

9. Report of the Secretary-Treasurer—Dr. Henry M. Wilbur, accepted by vote on motion of Ben Rabinowitch/A. E. Seyler.

10. Committee on the Treasurer's Audit—Dr. Willard Hunnicutt, Chairman. Since the report given was not based on an actual audit of the Society books by a Certified Public Accountant, it was not accepted. Dr. Ben Rabinowitch moved that such an audit be made, one week prior to the next annual meeting, and submitted to the members of the Executive Council, seconded by Dr. Willard Hunnicutt and carried.

11. The meeting was turned over to the Vice-President, Dr. Hugh Keenan, for the Report on the President's Recommendations, each of which was given lengthy consideration and turned over to the proper people for presentation to the general business meeting.

There being no old business to discuss, the item New Business was next on the agenda.

1. The question of giving or selling the society mailing list was brought up by the Secretary. It was the opinion of the Executive Council, after considerable discussion, that our roster be used only for society business.

2. Election of an Editor for the Journal of Dentistry for Children. It was moved by Willard Hunnicutt/Ben Rabinowitch, and carried that Dr. A. E. Seyler be elected as editor. A unanimous ballot was cast and Dr. Seyler was elected.

3. Dr. Sam Harris then described an idea that he had conceived of stimulating organizations such as the American Society of Dentistry for Children in foreign countries. He asked for the support of the American Society of Dentistry for Children in exploring the possibility of organizing such groups abroad. It was moved, seconded and carried that such support be granted Dr. Harris.

There being no further business to be discussed at this meeting, it was adjourned at 12:30 a.m.

MINUTES OF THE MEETING OF THE EXECUTIVE COUNCIL AND STATE UNIT DELEGATES

Saturday, September 6, 1952
9:30 a.m.

Dr. George W. Teuscher, President-Elect of the American Society of Dentistry for Children and Chairman of the Membership and State Unit Committee presided at the meeting of the Executive Council and State Unit Delegates on Saturday, September 6, 1952 in the Colonial Room of the Hotel Melbourne. Dr. Teuscher welcomed all of the State Unit delegates and alternates, and explained the importance of the State Unit in the organization of the American Society of Dentistry for Children.

Dr. Teuscher called on the Secretary of the American Society of Dentistry for Children, Dr. Henry Wilbur, to take a roll call of official delegates and alternates, after which Dr. Wilbur read the minutes of the 1951 meeting of the Executive Council and State Unit Delegates.

Dr. Teuscher then announced that during the past year the American Society of Dentistry for Children had added one new State Unit to its roster, that of Connecticut, which brought the total number of State Units to twenty-nine. Dr. Teuscher also announced that progress is being made in the formation of State Units in Arizona, Hawaii and Florida. Dr. Teuscher said that the American Society of Dentistry for Children now has a total of 2,871 members, of whom 2,564 are members of State Units.

Dr. Teuscher stated that he had had excellent cooperation from the State Unit Secretaries who had sent in reports of the activities of their State Units. He selected the report of the Oregon State Unit to read as a typical example of these various reports.

The formal program was then begun by the introduction of Dr. G. A. C. Jennings whose essay served as an excellent spring board for discussion of the "Purposes of the State Unit and What Can Be Accomplished Through its Organization."

Dr. Jennings listed a number of suggestions, all of which were very pertinent and useful to State Units who would want to participate actively. The suggestions, as Dr. Jennings listed them, are as follows:

1. The stimulation of membership by, among other things, the issuing of certificates of membership which have the year prominently displayed.

2. The election of officers who are willing and able to do a thorough job.

3. The participating of a State Unit in the programs of the State Dental Association in:
   a. Encouraging and insisting that Dentistry for Children be well represented on State Association programs and the entertainment of visiting clinicians.
   b. Taking the initiative and responsibility for the development of Children's Dental Health Day programs.
   c. The participation in college homecoming programs.
   d. The appearance of Unit members before the graduating classes of dental schools to bring information to those graduating dentists about the activities of the American Society of Dentistry for Children.

4. State Units could cooperate closely with local associations of pediatricians and other similar groups.

5. The encouragement by members of State Units that their Alma Maters improve the teaching of Pedodontics.

6. The State Unit may serve as a Speakers Bureau to P.T.A.'s and other organizations interested in the health of children.

7. The Unit should have an editor who should contribute not only to the Journal of Dentistry for Children but also to State Journals.

8. The development of essayists and clinicians. The State Unit, being a small organization, can serve as a proving ground for beginners in these areas of education and the dissemination of information.

This essay was followed by two speakers, Dr. C. E. Jennings of Tennessee and Dr. Melvin Noonan of Michigan, who started a discussion of "Suggested Programs for the Active State Unit." The balance of the meeting was devoted to a very complete and open discussion of various activities in which the several State Units are participating. These discussions were participated in by practically all the delegates and alternates present at the meeting, and the concensus of the group seemed to indicate that all were tremendously stimulated. There seemed to be even some regret that the meeting had to adjourn at 11:30 a.m. in order to prepare for other parts of the convention.

MINUTES OF THE GENERAL BUSINESS MEETING

President Earl Lampshire, Presiding

The General Business Meeting of the American Society of Dentistry for Children was held on Sunday September 7, 1952 at 2:30 p.m. in the Colonial Room of the Hotel Melbourne, St. Louis, Missouri, with President Earl L. Lampshire presiding.

The agenda was altered so that the first item of business was the reading of the minutes of the General Business Meeting in 1951 by the Secretary, Dr. Henry Wilbur. A motion was made by Dr. Albert Anderson that the minutes be accepted as printed in the Journal of Dentistry for Children, Volume 19, No. 1, First Quarter 1952. The motion was severally seconded and carried.

The regular order of business was resumed with the President welcoming all delegates and alternates and visitors. President Lampshire then called on the Secretary, Dr. Henry Wilbur for a roll call of the delegates and alternates.

After the roll call, the meeting was turned over to the Vice-President, Dr. Hugh Keenan, who called upon Dr. Earl Lampshire to read the President's Annual Message. When Dr. Lampshire completed the reading of his message, Dr. Keenan called on Dr. G. A. C. Jennings, Chairman of the Committee to report on the President's Recommendations.

Dr. Jennings: "Mr. Chairman, since we are so pressed for time and since the President's sixteen recommendations covered so much territory, the committee decided that they be referred to the Executive Council for next year. There's plenty of meat in these recommendations and with the approval of this body, I would like to move that the report of the recommendations of the President be filed with the incoming Executive Council for action. I make such a motion."

Seconded by Dr. Harold Berk and carried.

The meeting was then turned back to the President for the next item of business.

Since this year for the first time all committee reports were mimeographed and available to all to read, the reading of each report was dispensed with, and instead the committees which were appointed to act on the recommendations contained in each report were heard.

REPORTS OF STANDING COMMITTEES:

1. Membership and State Unit Committee—Dr. George Teuscher, Chairman. Dr. Ben Rabinowitch, as chairman of the Committee to act on the recommendations of the Membership and State Units Committee, made the following report:

"The report is brief yet thorough. Each local component of the State Dental Association should be encouraged to put on at least one meeting each year under the auspices of the State Unit of the American Society of Dentistry for Children.

"This local component should participate wherever possible in Children's Dental Health Day Programs. The total membership in the American Society of Dentistry for Children to date, for 1952, is 2,871. Respectfully submitted, Drs. Willard Hunnicutt, Al Seyler, Ben Rabinowitch, Chairman."

Dr. Rabinowitch moved that the report be accepted, Dr. Louis Kelsten seconded, the motion carried.

2. Public Relations and Publicity—Dr. Jack Wisan, Chairman. Dr. Ben Rabinowitch, as Chairman of the committee to act on the recommendations of the Public Relations and Publicity Committee made the following report:

"Dr. Wisan has presented a good outline of leads that can be started at once and continually improved.

"This committee also recommends continuation of support of the National Child Dental Health Day, as it seems to be accepted nationally.

"Cartoons that are favorable to dental health for children should be encouraged for lay magazine and newspaper use.

"The pamphlet needs improving but is a start in the right direction. Changes we suggest are as follows in discussion below. Respectfully submitted, Drs. Willard Hunnicutt, Al Seyler, Ben Rabinowitch, Chairman."

Each person was provided with a copy of "Pointers for Parents" and the following changes in the original format were suggested:

"The Cover, the committee thought was quite nice, but on the first page of the inside, starting with 'Make ready for a new experience,' we recommend that the first '(a)' be deleted, in telling what to expect; then we believe that '(b)' should be moved down to be the first phrase under 'Here are some ways to get ready for that first appointment.' In other

words, the first phrase would read, 'Tell him what is expected of him.'

"On the second page where you find the words 'Yes!' 'Friend' 'Kind' the committee thought that the word 'Truthful' should be added. Then above 'What to say' we think should be added 'Let the dentist tell the child what to expect.' In other words, the parent would not be as familiar with a dental operation as the dentist.

"Under 'What to say' the change should be 'Am I glad I went to the dentist today.' Delete the rest of it and add, 'Now I'll have good, pretty teeth.'

"The next phrase we feel should be deleted. In other words, delete 'I felt a little something, but my dentist is careful and knows when to stop.' We are sure that no child of three or four will be able to repeat that phrase.

"We believe that the rest of the pamphlet is excellent and should be continually improved. Respectfully submitted, Drs. Willard Hunnicutt, Al Seyler, Ben Rabinowitch, Chairman."

It was moved by Dr. F. E. Hogeboom and seconded by Dr. Louis Kelsten that the report be accepted. A discussion of the changes followed. Dr. Mel Noonan of Michigan suggested that the wording of the phrase "Good, pretty teeth" be changed to "Fine, pretty teeth." This suggestion was overruled. Dr. B. W. Gilbert of Wisconsin asked the question "Why are we discussing this particular piece of patient education?" President Lampshire explained that this pamphlet is the result of two years' of tedious work by the Committee on Public Relations and Publicity, that it is to be published with Society funds for the use of Society members.

Dr. Harold Berk of Massachusetts suggested that "Good, Pretty teeth" be replaced with "Healthy teeth." Dr. Willard Hunnicutt replied: "I believe that words that children are familiar with would be used to better advantage. They don't understand 'Healthy' and 'Fine' as well as they understand 'good' bebecause mothers are always telling them something is good or good for them, and something is 'pretty' and I believe words such as that on the patient's level would be used to better advantage."

Dr. Frank Lamons of Georgia asked if these suggestions "are to be used by the patients or by the parents of patients." President Lampshire called on Dr. Norman Fortier who had done a great deal of work on this pamphlet to answer this question. Dr. Fortier replied: "This pamphlet is definitely directed to parents, in other words, to educate the parents in the proper method to use as the child psychology—what to say and particularly what not to say in front of children to prepare them for a visit to the dentist. Therefore, we did not use certain words like 'drill' 'cut' and 'hurt' and we will use words that instill a feeling of confidence or at least lack of fear on the proposed visitor." Dr. Fortier also asked that the name "Throp" be corrected to "Thorp".

Dr. Rabinowitch said: "I'm very glad for the committee that we have so many comments, because Dr. Wisan has been seeking such comments and I wish all those who have comments to make direct them to him as chairman of this committee, because this must be a continuing thing. We can't let this be static. It is one of our first major projects that will be disseminated to the laity and I think it must be continually improved."

Dr. F. E. Hogeboom suggested that: "On the basis that the pamphlet will be a continuing thing, that the suggestions of Dr. Rabinowitch's committee be accepted and any further suggestions of changes be directed to Dr. Wisan." Dr. Henry Wilbur moved the acceptance of the report, seconded by Dr. F. E. Hogeboom, and carried.

3. Professional Relations Committee—Dr. R. Mott Erwin, Chairman. Dr. Lawrence R. Burdge, as Chairman of the committee to act on the recommendations of Dr. Erwin's committee, read the following report:

"Project I. The reference committee feels that after careful deliberation, due to the incompleteness of listing of clinicians and essayists, we believe that further study of these problems be perpetuated by the committee before the printing of a final list. The committee is doing a commendable job on a most difficult task.

"Project II. Under Project II relative to fostering a better understanding of Children's Health problems through basis of relationship with interested inter-professional groups, the committee concurs with the recommendation that through the effort of this Committee the American Society of Dentistry for Children take the initiative in coordinated health projects among these and other professional groups through the media of our Journal, liason appointees and the encouragement of definite projects. Respectfully submitted, Drs. Hugh

Keenan, George Teuscher, Lawrence R. Burdge, Chairman."

Dr. Burdge moved that the report be accepted, Dr. C. K. Botkin seconded the motion and it carried.

President Lampshire at this time reminded those present that: "The American Academy of Pediatrics has been contacted by the Committee on Professional Relations and they are going to meet in October. They have requested that we suggest to them some activity in which they may cooperate with us. If any of you have any ideas, anything you have been thinking about that you would like to use to work more closely with physicians in this branch of medicine, would you please write them down and give them to me to pass on to Dr. Erwin . . . We would like to come up with some plan or some project whereby we could cooperate with these related professions and this is one expression of desire to cooperate that we have obtained. So if you have any ideas, please give them to me in writing."

4. Schools and Dental Boards Committee—Dr. Ralph L. Ireland, Chairman. Dr. L. R. Burdge, as Chairman of the Committee to act on the recommendations of Dr. Ireland's committee gave the following report:

"We, the reference committee, highly commend this committee's questionnaire polling the fifty-two state boards of dental examiners. The results were both informative and definitely a challenge to our Society for the need of closer cooperation between the various State Dental Boards and their respective State Unit and/or appropriate Society Committees. Their objectives should be to encourage and assist those State Examining Boards who do not examine in dentistry for Children and also to assist all Examining Boards in an endeavor to improve the quality of State Board Examinations in dentistry for children. Respectfully submitted, Drs. Hugh Keenan, George Teuscher, Lawrence R. Burdge, Chairman."

Dr. Burdge moved that his report be accepted, seconded by Dr. M. M. Cohen. Under discussion, Dr. Henry Wilbur asked: "I have an indirect request from the Secretary of the Kentucky State Board of Dental Examiners for a list of questions. I remember that some years ago a list of questions, with answers and bibliographical citations was compiled. I don't know what has become of that list of questions, but I wonder if they might still be available so that I could take a copy back to my dental board?"

Dr. Kenneth Easlick answered: "I have a copy of those questions in the archives, but I think they need sadly to be brought up to date. We did some work since those questions were prepared. I can't remember who all worked on them. I know Dr. John Brauer was chairman of the group, and I participated in one report at the Atlantic City meeting, and I think perhaps those questions are still available; but they only covered a small portion of what would be available to a state board of dental examiners for questions regarding dentistry for children. It seems to me we need to do this job over." President Lampshire suggested that note of this be published in the minutes, so that it could become a project for next year. A vote on the motion to accept the report was carried.

5. Community Dental Programs Committee—Dr. Albert Anderson, Chairman. Dr. G. A. C. Jennings, Chairman of the committee to act on the recommendations of Dr. Anderson's committee gave the following report:

"It was the unanimous belief of those present at the meeting of the State Unit Delegates that the entire report of the Community Dental Programs Committee should be published in the Journal, or as much of the report as the editor of the Journal deems plausible." This recommendation was seconded by Dr. F. W. Summers, and carried.

6. Editorial and Publications Committee—Dr. Harold Klein, Chairman. Dr. L. R. Burdge, Chairman of the committee to act on the recommendations of Dr. Klein's committee, gave the following report:

"It is the opinion of this committee that an Editorial Committee should continue to function as an aid to the Editor in the spirit of the designated duties of the Committee as described in the Constitution and By-Laws of the American Society of Dentistry for Children. Respectfully submitted, Drs. Hugh Keenan, George Teuscher, Lawrence R. Burdge, Chairman."

Dr. Burdge moved the adoption of his report, seconded by Dr. Harold Berk, and carried.

REPORTS OF SPECIAL COMMITTEES:

1. President Lampshire then called for reports of Special committees, the first being that of the American Board of Pedodontics. Dr. Ralph Ireland, Secretary reported that there was no examination in 1952, and that the next examination would be held February 3rd

to 5th, 1953 at the University of Michigan, School of Dentistry, at Ann Arbor, Michigan. Dr. Ireland read a report prepared by the auditors of the books of the treasurer, showing a balance as of August 31, 1952, of $3,023.74. Dr. Ireland moved that his report be adopted, seconded by Dr. L. R. Burdge and carried.

2. American Academy of Pedodontics, Dr. Lyle Pettit, President. Dr. Pettit gave a brief historical resume of the American Academy of Pedodontics, because there had been some confusion as to the place of this organization in the overall picture of dentistry for children. Among other things, Dr. Pettit said: ". . . The 1952 annual meeting was held in June at the University of Washington in Seattle with Dr. Kenneth A. Easlick as President.

"At this meeting the Academy embarked upon a Study Club Project pertaining to pedodontic problems involved in the development of teeth and occlusion. It was planned to pursue as long as necessary a study of the problems, to appraise critically the available scientific information and eventually to agree on a statement of factual conclusions that could be adopted by the entire membership. It was thought that such a statement of carefully appraised conclusions could be of great value to all dentists.

"Another part of the program consisted of research reports which are being carried on by various members.

"At the Seattle meeting it was decided that in the future the annual meeting would be extended from a two to a three day meeting in order to include a session pertaining to clinical practices.

"The 1953 annual meeting which is to be held in Louisville, Kentucky, June 24, 25 and 26 will have the following agenda for its program: A continuation of the Study Club Project, a reappraisal of subject matter presented at the Seattle meeting, research reports, and also techniques used in clinical practices.

"The officers elected for 1952–53 are: Secretary, R. Mott Erwin, Jr., Portland, Oregon; Treasurer, Harold K. Addleston, New York, New York; Vice-President, William W. Demeritt, Chapel Hill, North Carolina; President, L. S. Pettit, Columbus, Ohio." President Lampshire thanked Dr. Pettit for his informative report.

3. Committee on Military Affairs, Dr. John Brauer, Chairman. The report was mimeographed. Dr. Ben Rabinowitch, as Chairman of the Committee to act on the recommendations of Dr. Brauer's committee presented the following report:

"It is apparent from the report presented that Pedodontists and sometimes Orthodontists are not given the same consideration as Prosthodontists, Oral Surgeons, and Oral Pathologists. This is due to the fact that, except for the Veterans Administration, such services to dependents is not needed nor may it be considered desirable if we expect to continue our "hoped for" civilian economy.

"Dr. Brauer's committee pointed out that Pedodontists should be classified as essential to civilian practice where they may be of greater value to the country. This committee concurs with that opinion and urges that the following resolution be submitted to the American Dental Association House of Delegates for action at the 1952 session.

"WHEREAS, the speciality of Pedodontics has a very limited immediate application to military personnel

"BE IT RESOLVED that full time practicing Pedodontists be declared essential and that every effort be made to retain them in civilian practice.

"BE IT FURTHER RESOLVED that if and when a recognized Pedodontist is inducted into service, due recognition be given this specialty classification as given to any other specialty recognized and approved by the American Dental Association."

"Despite the short time Dr. Brauer's committee had to function, a comprehensive report was presented with the necessary information in a concise manner. The committee should be congratulated. We believe this committee should be continued. Respectfully submitted, Drs. Willard Hunnicutt, Al Seyler, Ben Rabinowitch, Chairman."

Dr. Rabinowitch moved the adoption of his report, it was severally seconded and discussion followed.

Dr. Weber: "Mr. Chairman, last year through my efforts, I think, and because I was affected by being a member of the service, I suggested that something of this nature be done. After listening to the resolution, I should like to make some additional resolutions and some additional changes. The primary interest I had at that time of making a recommendation that this Society try to do something about the recognition of pedodontics in the services was not only that of forcing the government to take a pedodontist from private practice to do only children's dentistry. My interest was this;

that if a pedodontist is called into service and there is not too much need for pedodontists, in the larger institutions they are asked to do pedodontics on their own time and occasionally on government time, taking care of dependents. We in the service even though we are pedodontists are all fit to do general practice; however, with an additional M.O.S. (Military Occupational Service) number, listed as a pedodontist would help a number of men, and that was my entire point. I feel that if a man who is not doing pedodontics full time, who is doing it the majority of his time, has been recognized by the Society, that he should be given a secondary number, secondary rating as a pedodontist. Do I make my point clear?"

President Lampshire: "As I understand it, a very important statement you just made then was 'has been recognized by the Society.' "

Dr. Weber: "That's right."

The question was called for and the vote carried unanimously. President Lampshire was questioned as to whether someone should be appointed to carry the resolution to the American Dental Association. He said he would "appoint a person or a committee shortly after this meeting is adjourned, to carry that resolution, as soon as possible, to the American Dental Association."

4. Committee on the Executive Secretary—Dr. Hugo Kulstad, Chairman. President Lampshire commented: "This committee was appointed only a few short weeks before this annual meeting. It was not the intention that this committee come forward with a complete report at this time, and it was just to start something and to start our thinking, and it was decided at the Executive Council meeting that this committee, at least the actions of the committee and not necessarily the personnel, be carried over to next year to continue this study. However, it is on the agenda and if Dr. Kulstad who is appointed as chairman would care to say anything at this time he may, or he may also feel free to decline."

Dr. Kulstad: "I think this is a very important item for the Society. The plans have gone this far: I have talked to some of the present officers of the American Society of Dentistry for Children and they concur in this plan essentially that at the next meeting of our Society arrangements be made to have the present officers and possibly some of the past presidents meet as a committee with the committee that will be appointed by the new president, and have as our guests the executive secretaries of some of the dental organizations that have been using them for some time, not together, but separately, and then also have as our guests by appointment some of the immediate past presidents of those same organizations, to find out from them what kind of service was rendered and what kind of service was asked for and how the whole thing works. I think based on somebody else's experience we may be able to make more intelligent decisions as to what we need and want and how to go about getting it."

President Lampshire: "Thank you very much."

5. Committee on Constitution and By-Laws —Dr. Sam Harris, Chairman. Dr. Harris reported the following changes to the By-Laws:

A. To Article III add Section 5 as follows:

'All nominees for the office of president, president-elect and secretary-treasurer must have served at least one term as a member of the Executive Council or as a member of a Standing Committee of the American Society of Dentistry for Children prior to their nomination for one of the above mentioned offices.'

Dr. Harris moved that this change be accepted, seconded by Dr. Albert Anderson and carried.

B. To Article VI, Section 4 add as follows:

'He shall (the Secretary) ninety days before the annual meeting, be responsible for notifying the secretary of each state unit of the number of official delegates and alternates to which they are entitled and shall provide them with official forms. The secretary of the State Unit shall in turn, thirty days before the annual meeting, return these forms with the names of delegates and alternates and duly endorsed by the State Unit president or secretary.

'The State Unit secretary shall then be mailed proper credentials for each delegate and alternate, and voting privileges of these delegates and alternates at annual meetings shall be dependent upon the presentation of these credentials at the time of registration.'

Dr. Harris moved that this change be adopted, seconded by Dr. F. W. Summers. President Lampshire asked if there was any discussion.

Dr. Ben Rabinowitch: "I wonder if it could be added to that some phrase saying that if a member is unable to attend, the president or chairman of the delegation be empowered to

issue an official credential to another member present?"

President Lampshire: "Even though we have our alternates mentioned in this?"

Dr. Rabinowitch: "If there is an insufficient number, yes . . . I move the amendment be adopted." Seconded by Dr. David.

President Lampshire: ". . . Would you word that once more? I think it is rather important, because if you don't read it word for word, we will be right back where we were before. The Society decides who shall be a delegate or alternate just like any other organization. In my past experience as secretary, it is very confusing to have them coming in here every hour of the day with a different delegate or different alternate. We're grown up now. We don't want to put it back again where we were . . ."

Dr. Rabinowitch: ". . . We don't meet after May and there may be changes occurring, some men are able to come and some not, and I would rather just give you the gist of it and have the wording arranged by the committee, because they are much better at wording the legal phraseology than I am."

President Lampshire: "We must vote on it now. Do you want to vote on it, or the intent?"

Dr. Rabinowitch: "Go ahead."

President Lampshire: "Vote on the intent of the amendment."

The Amendment carried.

President Lampshire: "Now, we will vote on the original motion as amended."

The original motion as amended carried, not unanimously, but there was more than the necessary two-thirds and it therefore carried.

Dr. Harris:

C. In Article VI, Section 4 delete that part which says: 'He shall be awarded, in addition to his salary, an honorarium of three hundred dollars a year.' I think that needs a word of explanation. Hugh Keenan, looking into this thing, found that there was a tax element involved; that this matter should be referred to the Budget Committee rather than have it in the constitution.

Dr. Harris moved that this deletion be made, seconded by Dr. Rabinowitch, and carried.

D. Article VI Section 1, in the second line, after the word 'appoint' add the words 'and notify.' The President is to both appoint and notify his appointees.

Dr. Harris moved that this change be accepted, seconded by Dr. Willard Hunnicutt and carried.

E. To Article VI, add a section which will be Section 5 and will read: 'At the conclusion of each officer's term of office and at the annual meeting, each officer shall surrender his manual to his successor.'

Dr. Harris moved that this be adopted, seconded by Dr. F. W. Summers and carried.

F. Article IV Section 3, in the third line replace the word 'and' after the word 'boards' with a comma, and replace the period after the word 'programs' with a comma and add, 'Constitution and By-Laws and Budget.' The idea is to add these two committees, and just arrange the punctuation so that they may be added to this section.

Dr. Harris moved that this change be made, seconded by Dr. Stuart Anderson and carried.

G. Article IV, Section 1 add at the end the new committee 'Constitution and By-Laws Committee: This committee shall be composed of past presidents and the new member each year shall automatically be the retiring president. This committee shall serve to study the constitution and by-laws and keep it abreast of the developments of the organization, accept suggestions for changes or additions from members for consideration, and report its recommendations at the annual meeting.'

Dr. Harris moved that this addition be made, seconded by Dr. Ben Rabinowitch and carried.

H. Article IV, Section 1, to follow the addition called for in 'G' above: 'Budget Committee: To prepare and recommend a budget to the Executive Council for its approval on the day preceding the official and annual meeting. It shall also be the duty of this committee to closely observe the management and handling of the budget and report its findings to the Executive Council.'

Dr. Harris moved that this addition be made, seconded by Dr. Willard Hunnicutt and carried.

Dr. Harris: "There was a matter of travel expense referred to my committee, and it was decided by the committee to refer this item to the budget committee for their action. I would now like to read a portion of my committee's report which has been proposed and approved, but we recommend that it be tabled until next year for appropriate action."

I. 'Article VII, Section 4 be deleted and

Section 5 be changed to Section 4, and Article VIII be added to the By-Laws entitled 'American Board of Pedodontics.' 'There shall be appointed a liaison committee of three elected by the Executive Council, one for one year, one for two years, and one for three years, and thereafter the term shall be for three years. This committee will sit with a similar committee of the American Academy of Pedodontics to develop matters of mutual advantage to the two organizations. These six persons shall sit with a representative member of the American Board of Pedodontics to nominate a member to the American Board of Pedodontics.' The committee moves that this recommendation be considered as tabled until next year for appropriate action. Seconded by Dr. Al Anderson and carried.

Dr. Harold Addelston: "May I suggest that the committee consider, when they bring this up next year, the possible addition of a phrase to read 'No member of the committee shall succeed himself?' "

Dr. Harris: "I will make a note of that, Harold. I think it is a good suggestion."

President Lampshire next called for the report of the Secretary-Treasurer, which Dr. Henry Wilbur read from a mimeographed copy. Dr. Ben Rabinowitch, Chairman of the committee to consider the Secretary's report read the following: "It is evident from the report of the secretary that the duties of his office have been well discharged. This committee recommends acceptance of the Secretary's report. Respectfully submitted Drs. Willard Hunnicutt, Al Seyler, Ben Rabinowitch, Chairman." Dr. Harold Addelston moved that it be accepted, seconded by Dr. Berk. Discussion followed.

Dr. Kenneth Easlick: "It has been brought to mind by the Secretary's report the annual awarding of the certificates . . . We make quite a lot of honor convocations late in the spring, rather formal occasions at which these various awards are presented. I have been embarrassed for some time because the candidate who gets the denture award gets a $150.000 check with it. . . . We did a little business this year, at least we have a start. The recipient of the certificate at the University of Detroit will get a $25.00 check and the one at the University of Michigan will get a $25.00 check, and I hope we can continue to get candidates for these awards from the Michigan Society of Dentistry for Children."

Dr. Noonan: "I might add we might try to raise that ante to $150.00 so they don't think that prosthetics is more profitable."

President Lampshire: "I appreciate that comment and this might be a very worthwhile project for some of you unit delegates to take back and suggest as a project for your unit, if it happens that a college is in your state."

The motion to accept the Secretary's report carried.

At this point, President Lampshire introduced to the meeting Mr. Francis C. Harwood, our Business Manager. Mr. Harwood said: "Our office in Baltimore is always glad to hear from any of the State Unit officers or any individuals known as members-at-large that may have problems. We are always at your service."

President Lampshire called for a report from the Committee on the Treasurer's Audit.

Dr. Willard Hunnicutt: "At the meeting of the Executive Council the other night, it was recommended that we have a certified audit, which I think will be forthcoming as of the end of the fiscal year. I move the adoption of this recommendation."

Seconded by Dr. Ben Rabinowitch and carried.

NEW BUSINESS:

Dr. Albert Anderson described conditions in the Bureau of Indian Affairs and said: "The Bureau of Indian Affairs is the only branch of civil service, armed forces or any of the governmental services where a dentist comes in at a lower autonomy rank than the physician does. He has equal training and experience. The dental officer in the Bureau of Indian Affairs comes in as an eleven while the physician comes in as a twelve. We have one out in the Apache Reservation, a wonderful man, who has been in the Bureau of Indian Affairs for twenty-three years, and he is still eleven; and we would like to have this organization, the president, form a committee to study this problem, and see if we can't go to the civil service bureau and have this wrong changed. I would certainly appreciate it if a committee were formed to look into this and make some recommendation to the Civil Service Commission and try to have this injustice changed. I so move."

Seconded by Dr. L. R. Burdge and carried.

Dr. Matthew Mitchell: "We have a problem in Washington, too. This is more or less in the form of a request for some advice. Of course,

we don't know what to do now. We have many members in Maryland, that is in the vicinity of greater Washington, Silver Springs, etc., who would like to come into the Washington Unit, but they cannot because we can't advise them on the Maryland Unit. There's not enough men in the vicinity in which they are situated to form a unit of their own, so we want some advice as to whether or not we can accept them as members in the District Unit or whether they must maintain membership in their state Unit."

President Lampshire: "Thank you, Doctor, we were informed that there might be such a question as this and we (the Executive Council) have discussed it already. I would like to call on Dr. Henry Wilbur to comment on our discussion."

Dr. Wilbur: "Legally, according to the Constitution and By-Laws, those men around Washington who actually live in Virginia would have to be members of the Virginia Unit and those who live in Maryland would have to be members of the Maryland Unit, paying their state unit dues to the respective unit secretaries. One idea that was discussed was that if there was a lot of activity in Washington that these men might be given all rights and privileges and all the notifications of meetings and be welcome in meetings in Washington, if they were additionally to pay the Unit dues of Washington. To me personally this seems unfair for a man to pay two state unit dues, and I wonder if it woud be too much of a chore for the District secretary to inform these men of meetings. This seems to be a local problem and I hope we have been of some help to you."

Dr. Willard Hunnicutt: "Would it be possible for the Washington Unit, in their own local constitution (if it did not conflict with the Constitution and By-laws of the parent organization) to set up an associate membership for a lower fee without voting privileges and allow these men to attend that unit? I think that would be legal and probably would solve the problem."

Dr. Mitchell: "We are anxious to have all the men in and we just wanted some help in making the decision as to what to do so as to make everything legal and right."

President Lampshire: "According to the Constitution, as Dr. Wilbur said, to become a member of the American Society of Dentistry for Children a man must be a member of his local unit, providing there is a unit located where he resides, but this other system I think will assist you."

Dr. B. W. Gilbert: "I am from Wisconsin. Our unit is newly organized, and I received reports not too long ago that the Wisconsin residents who are members of the American Society of Dentistry for Children are affiliated with the Minnesota Unit, as they are geographically situated near Minneapolis, and it is more convenient for them. I wonder if those members should be credited to our group?"

President Lampshire: "The Constitution directs very clearly that those members must be members of their own state unit, to be members of the American Society of Dentistry for Children."

Dr. Harold Wittich: "To our knowledge we do not have anybody from Wisconsin. I have gone over the list quite recently. However, that can be wrong. I will check into it."

President Lampshire: "Will you both please check into it and notify our Secretary? We would like to get it straightened out."

"Any other New Business to come before the meeting at this time? Hearing none, we will go to Item 9, Report of the Nominating Committee."

Dr. Don B. Chatterton, Chairman of the Nominating Committee read the following report:

"The Nominating Committee wishes to make the following recommendations for officers and council members of the American Society of Dentistry for Children.

President—Dr. George Teuscher
President-Elect—Dr. Hugh Keenan
Vice-President—Dr. Willard Hunnicutt
Secretary-Treasurer—Dr. Henry Wilbur

"The members of the Executive Council whose terms of office expire this year are Dr. W. James Taub, Dr. L. R. Burdge, and Dr. G. A. C. Jennings. The nominating committee recommends the following men to fill these vacancies: Dr. L. R. Burdge, Dr. G. A. C. Jennings and Dr. Albert Anderson. Respectfully submitted, Drs. William W. Demeritt, Alfred Seyler, Don B. Chatterton, Chairman."

Dr. Jennings: "I appreciate the nomination, but I would like to ask that my name be withdrawn. I have had the honor. There's a lot of work to be done, a lot of young people with more enthusiasm, vim and vigor than I have. When you are old as I am, you are to sit in the back, so I am going to ask that my name be

withdrawn and if I am elected, I'm afraid I would have to decline."

President Lampshire: "Is it agreeable to the committee that his name be withdrawn? Do you have any other suggestions, alternates?"

Dr. Chatterton: "I am the only member of the nominating committee present. We can't form a majority, but I would accept his resignation personally."

President Lampshire: "We have a situation existing whereby there is one Council member yet to be nominated. Do I hear nominations from the floor?"

Dr. Willard Hunnicutt: "I would like to nominate Dr. Roy Wolff."

President Lampshire: "Dr. Roy Wolff has been nominated. Any other nominations?"

Dr. Ralph Ireland: "I would like to nominate Dr. Laren Teutsch."

President Lampshire: "Dr. Roy Wolff of St. Louis and Dr. Laren Teutsch of Nebraska."

Dr. Mel Noonan: "I would like to nominate Dr. Harold Maxmen of Detroit."

Dr. Chester Pilcher: "I make a motion that nominations be closed."

The motion was seconded by Dr. Cohen and carried.

President Lampshire: "Is it the desire of the society that we vote individually on these or may we have a motion to the effect that we accept the nominations of the nominating committee, all except the one Council member which is contested?"

Dr. Harold Klein so moved, seconded by Dr. Beatty and carried.

President Lampshire: "We now have three men, Dr. Roy Wolff of St. Louis, Dr. Laren Teutsch of Nebraska and Dr. Harold Maxmen of Michigan nominated to fill the vacancy on the Executive Council." (This is a one year term.)

A motion was made by Dr. George Teuscher that a written ballot be used. This was seconded and carried.

President Lampshire: "I will nominate as tellers the three men who nominated the three candidates."

Dr. George Morgan: "Who is entitled to vote?"

President Lampshire: "All members of the American Society of Dentistry for Children are entitled to vote at a General Business Meeting."

The ballots were collected and counted by the tellers, with the following result: Dr. Teutsch 18; Dr. Wolff 20 and Dr. Maxmen 24.

President Lampshire: "You have elected as Council member, for a one year term, Dr. Harold Maxmen of Detroit. Dr. Chatterton, as Chairman of the Nominating Committee will now report on that committee's choice for the new member on the American Board of Pedodontics."

Dr. Chatterton: "With a vacancy being created by the expiration of the term of Dr. Jack Pelton, the nominating committee wishes to recommend that this vacancy be filled by Dr. Sidney Cohen. As a member of the Southern California Unit, I would like to make a motion that the House of Delegates accept the recommendation of the Nominating Committee and that the Secretary be instructed to cast a unanimous ballot in favor of the motion."

Seconded by Dr. Kulstad and carried.

President Lampshire: "I instruct Secretary Wilbur to cast the ballot."

Dr. Wilbur: "I cast one ballot for Dr. Sidney Cohen for the vacancy on the American Board of Pedodontics."

President Lampshire: "The next item, Item 13, Installation of newly elected officers and council members, so if at this time you will come forward, Dr. Maxmen, Dr. Burdge and Dr. Anderson.

"Members of the American Society of Dentistry for Children, I have asked that three newly elected Council members, or two newly elected and one re-elected Council member, come before you so that you may get a look at them. During the next two years they will be serving you on your Executive Council, Dr. Burdge to my left, Dr. Maxmen in the middle and Dr. Anderson. You gentlemen have a very responsible position in the Society and I hope you work real hard and they call on you to work hard.

"I would like to call the re-elected and newly elected officers to the front at this time, Dr. Wilbur, Dr. Hunnicutt, Dr. Keenan and Dr. Teuscher.

"I would like to introduce to the members of the American Society of Dentistry for Children your newly and re-elected officers for the next year. As Secretary-Treasurer, you have re-elected Dr. Henry Wilbur. Henry, we do appreciate the very capable and efficient manner in which you have carried out your office this year. I know it is a lot of work and

we certainly appreciate it and we are expecting great things of you again next year."

Dr. Wilbur: "Thanks, Earl, I have really had wonderful support from everybody, believe me."

President Lampshire: "Dr. Hunnicutt, it is a pleasure to welcome you as a new officer of the society. Dr. Hunnicutt is your new vice-president.

"There are lots of things we could say about Hugh. He has worked for us for many, many years. He knows a great deal about the society. He is going to make a very efficient President-Elect. We are expecting great things from you this year, Hugh, also as chairman of the Membership and State Unit Committee. Your new President-Elect, Dr. Hugh Keenan."

Dr. Keenan: "Thank you."

President Lampshire: "George, it's with a great deal of pleasure we recognize you as President of the American Society of Dentistry for Children. I know it is a big job, but we know that you will do it well, so I present you with the gavel at this time and the American Society of Dentistry for Children is yours."

President Teuscher: "I want to say just a word of appreciation for this new opportunity to serve this society and dentistry for children, and then to congratulate Earl on the fine job he has done during the past year. He earns this rest. We will seek his counsel, and at this time I would like to ask Hugo Kulstad to step up here, please.

Dr. Kulstad: "Earl, it gives me a great deal of pleasure to have been asked to come up and present you with the past president's plaque and at the same time to welcome you in to a very exclusive organization, the Past President's Club of the American Society of Dentistry for Children. There is no way you can get into this organization with money or influence. The only way you can get here is through a lot of hard work, as many of the men who have gone through this know. There is only one thing that I am a little sorry about for your sake, Earl, and that is that you are going to be associated with a lot of old dodos and seniles that have gone before you. You are about the youngest man that has ever achieved this honor, but just the same, we are going to try to be tolerant of progressive movements and go along with you."

Dr. Lampshire: "Thank you Hugo. It has been a real pleasure and I assure you a wonderful experience to serve as President of this Society. It was a special thrill that Hugo accepted the presentation of this plaque to me. I really appreciate it and I assure you that I am going to continue to do all that is asked of me and work for the Society in years to come. Thank you."

President Teuscher: "I declare the meeting adjourned."

The meeting then adjourned at 5:00 o'clock.

Make your plans and reservations now to attend the ANNUAL MEETING of the AMERICAN SOCIETY of DENTISTRY for CHILDREN at HOTEL CARTER in CLEVELAND, September 25–27, 1953. Carl Miller, President of the Ohio Unit, and Sam Robbins, President of the Cleveland Section promise that from the opening business sessions to the closing banquet Sunday evening in the beautiful Rainbow Room, you may look forward to a meeting befitting the traditions of the birthplace of CHILDREN'S DENTAL HEALTH DAY.

American Society of Dentistry for Children

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Hugh Keenan ..... *President-Elect*
Willard T. Hunnicutt ..... *Vice-President*
Henry M. Wilbur ..... *Secretary-Treasurer*
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Lawrence R. Burdge '54
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3

The Palatal Plate in Pedodontic Practice

MAURY MASSLER, D.D.S., M.S. AND THOMAS K. BARBER, D.D.S., M.S.

Editor's note:

The authors of the accompanying article are well known to our readers and as usual, have come up with an informative, easy to read presentation with excellent illustrations by Tom Barber.

A.E.S.

INTRODUCTION

THE palatal plate is a very useful appliance for the prevention and interception of a variety of incipient malocclusions. It is a versatile appliance because it can be modified in numerous ways to serve the particular needs of the individual case. In fact, the variety of modifications which can be incorporated into the palatal plate is limited only by the ingenuity of the operator.

Basically, the palatal plate consists of three portions:

1. *The palatal portion* or body, which is used for anchorage;
2. The *clasps and extensions into the interproximal areas* which serve for the retention of the appliance (figure 1);
3. The *attachments* which may vary from simple guide planes to complicated expansion screws to perform a variety of functions:
   - A. *Artificial teeth* added to the palatal plate in edentulous areas, make simple but efficient and functional space maintainers. The appliance may contain one tooth or replace a number of teeth (figure 2).
   - B. A *labial arch* can be added to hold or to actively retract protruding anterior teeth (figures 3, 4 and 5).
   - C. *Guide planes* serve to open the bite or to direct the position of the mandible during closing (figures 6 and 7).
   - D. A *crib* may be added to correct abnormal tongue thrusting or thumbsucking (figure 8).
   - E. *Finger springs* may be added in a variety of positions to act upon individual teeth (figure 9).
   - F. *Expansion screws* (or springs) inserted into a split palatal plate can be used to expand the alveolar process and the maxillary teeth (figure 10).

Each attachment can be used alone or in combination.

Palatal Portion. The palatal portion may be fabricated in any material. Acrylic is most widely used. Since this material is subject to distortion, care must be taken in obtaining an accurate impression and processing must be completed with *more than usual care.* In this respect we are impressed with the accuracy of fit achieved with the use of the "cold cure" acrylics.

The use of the palatal plate as anchorage during tooth movement has been advocated for many years as superior to full banded techniques (Schwartz, 1944; Köller, 1950) since in the former the palate provides a firm and immovable anchor-base while in the latter, no matter how many teeth are banded and tied together with an arch wire some reciprocal movement of the anchor teeth does occur.

Clasps. Simple clasps should be used to supplement the retention offered by adhesion between the plate and the palatal mucosa and by the interproximal exten-

sion of the palatal plate. A variety of such clasps are illustrated in figure 1. The crib clasp is perhaps the most useful in children since it presents no sharp edges and can be adapted to partially

illary molars. The same appliance mad replace a prematurely lost primary cuspiy either singly or in any combination (figure 2). The palatal plate can also be used to restore a prematurely lost maxil-

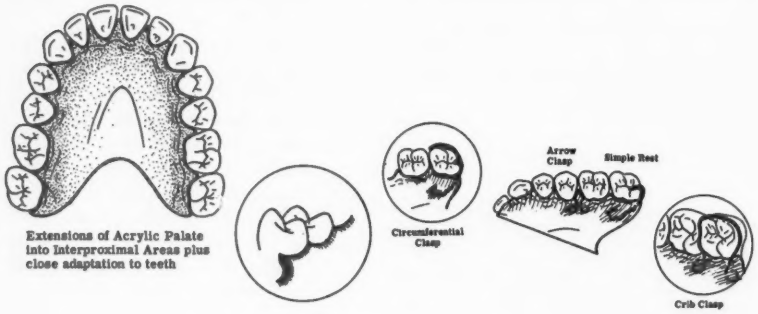
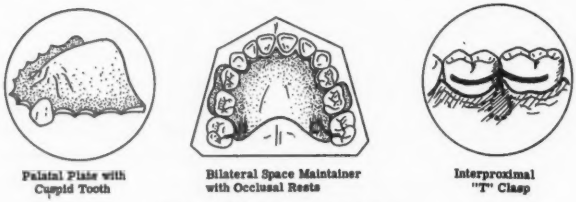

Extensions of Acrylic Palate into Interproximal Areas plus close adaptation to teeth
Circumferential Clasp
Arrow Clasp
Simple Rest
Crib Clasp

FIG. 1. Retention of Palatal Plate and Clasp Types



Palatal Plate Space Maintainer

FIG. 2

erupted teeth without difficulty and fear of interference with the eruption of the tooth. However, it is well to remember that the primary retention should be accomplished by the extensions of the palatal portion into the undercuts between the molar and bicuspid teeth.

PALATAL PLATE SPACE MAINTAINER

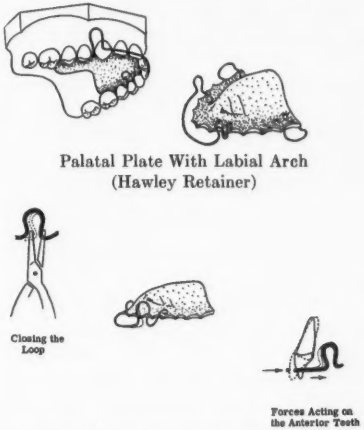
Figure 2 illustrates a common and useful form of the functional space maintainer, replacing three primary maxlary primary incisor for the sake of esthetics.

PALATAL PLATE WITH LABIAL ARCH

A labial arch can be added to the palatal plate, as in figure 3, to prevent and/or to intercept incipient protrusions of the upper incisors such as those caused by thumbsucking, tongue thrusting, etc.

Passive Labial Arch. The passive labial arch attached to the palatal plate is usually referred to as a Hawley retainer. Hawley re-introduced and refined this

device in 1919 to retain the incisors in correct position after orthodontic treatment. However, this appliance is even more useful when used early to guide the eruption of permanent incisors which show a tendency toward abnormal labial inclination during their eruption. If used at an early age (6 to 9 years) it is very effective in intercepting incipient premaxillary protrusions due to abnormal habit actions. In such cases, a wire crib can also be added to the palatal portion of the appliance as in figure 8 to correct the habit action (thumbsucking or tongue thrusting).



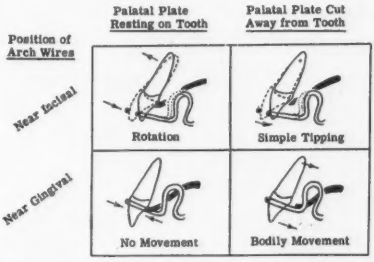
Palatal Plate With Labial Arch (Hawley Retainer)

Activated Arch (To Retrude Protrusive Maxillary Incisors)

FIG. 3

A passive labial arch on the palatal plate can also be used (frequently) to prevent the protrusion of the premaxillary segment in children who exhibit strong mesial drift tendencies during the early permanent dentitional period (10 to 15 years).

Active Labial Arch. The labial arch can easily be activated to retrude maxillary incisors which have already become protruded. This is accomplished by simply pinching together the "cuspid loops" (figure 3). However, *space must be present* between the incisors in order for this procedure to be successful. If space does not exist into which the incisors can fit easily, the active labial arch may cause rotations of these teeth. The extensions of the palatal plate on the lingual surface of the incisors must be removed to permit the retrusion of the incisors (see figure 4 for details).



The Activated Labial Arch Wire (Positioning of the Wire for Various Movements)

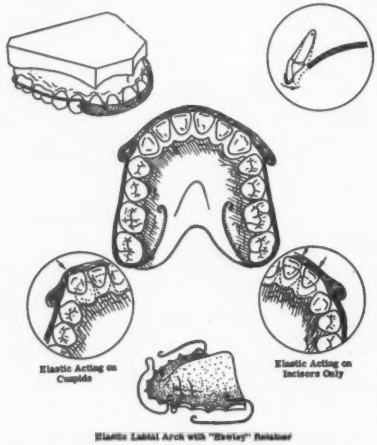
FIG. 4

Elastic Labial Arch. Protruded and spaced maxillary incisors can be quickly brought back into correct alignment by the use of elastic traction as illustrated in figure 5. A long wire hook can be embedded into the posterior portion of the palatal plate and brought around the last molar tooth to lie near the cuspid area. An elastic band made from rubber dam material is inserted into each hook so that it lies flat against the labial surfaces of the incisors. The elastic can be prevented from slipping gingivally by a metal ligature or by folding over the incisal edges of the teeth (figure 5).

The hooks are placed distal to the cuspids if they are to be moved palatally since in this position, the elastic presses

also against the cuspids (figure 5). In a broad arch, or one which needs further expansion in the cuspid area, the hooks are brought anterior to the cuspid area so that the elastic lies only upon the central incisors (figure 5).

The movement of the teeth palatally is usually very rapid. A metal labial arch as in figure 5 is usually incorporated



Palatal Plate With Elastic Labial Arch (For Marked Protrusion of Maxillary Incisors Caused by Abnormal Habit Actions)

FIG. 5

in the appliance to act as a retainer when the movement is completed.

The rapidity of the tooth movement usually causes a "piling-up" of gingival tissue around the teeth. Care should therefore be taken that (a) the movement is not too rapid, (b) that spacing of the incisors exists to receive the teeth and that (c) the gingivae are in excellent condition before the treatment is started. Massage and good home care are usually all that is needed to reduce the redundant gingival tissue.

PALATAL PLATE WITH GUIDE PLANE

Guide planes to reposition the mandible are easily added to the palatal plate.

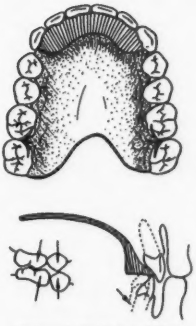
Flat Incisal Plane. A flat incisal plane can be used to "open the bite" and permit the continued eruption of the posterior teeth (figure 6A). This device is very useful to "open the bite" in cases with an anterior "closed bite," i.e., cases with marked incisal overbite. It can be used at any age period since continued eruption of the molars and bicuspids often occurs even after 40 years of age. However, the operator should remember that a "closed bite" in the anterior region is *normally* present during the mixed dentitional period from 7 to 10 years of age. This device is most useful during the young permanent dentitional period (12 to 16 years) in cases exhibiting an abnormal incisal overbite.

A flat incisal plane is also useful to keep the bite open during treatment to unlock a cross-bite in two or more teeth with criss-cross elastics. This prevents "jiggling" of the teeth under treatment and failure to unlock.

Occlusal Splints. Occlusal splints on the posterior teeth may be added to the palatal plate to produce the reverse of the previous condition, i.e., to permit the continued eruption of the incisor teeth to correct a deep anterior overbite (figure 6B bottom).

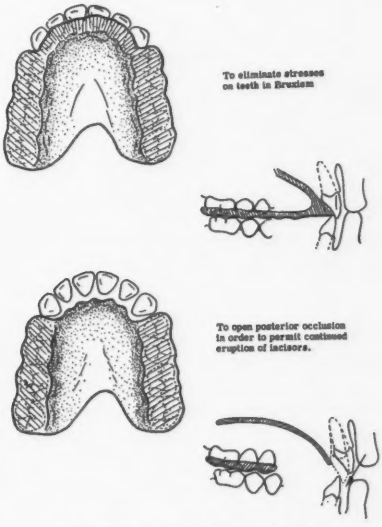
The same device can be used (in children or adults) to prevent the excessive wear of teeth due to night grinding (bruxism). In many cases, the use of this device effectively curbs the habit of grinding (figure 6B top).

Inclined Incisal Plane. An inclined incisal plane as shown in figure 7 can be used to bring the entire mandible forward during closure in children who exhibit an incipient or early Class II molar



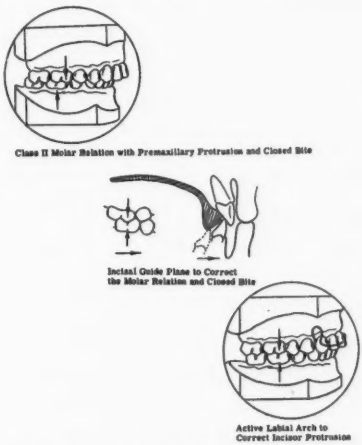
Palatal Plate with Flat Incisal Guide Plane

FIG. 6A



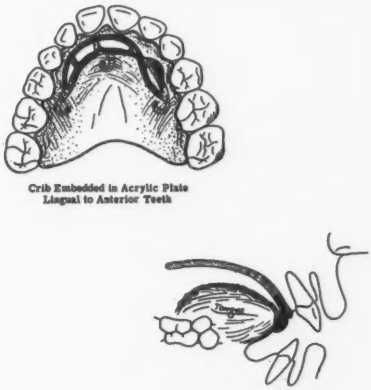
Palatal Plate With Occlusal Splints

FIG. 6B


Class II Molar Relation with Premaxillary Protrusion and Closed Bite
Incisal Guide Plane to Correct
the Molar Relation and Closed Bite
Active Labial Arch to
Correct Incisor Protrusion

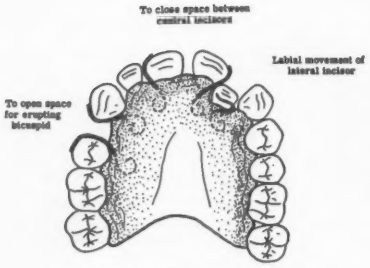
Palatal Plate With Inclined Incisal Guide Plane (To Correct Pseudo Class II Molar Relation)

FIG. 7



Palatal Plate With Crib (To Intercept Abnormal Tongue Thrusting or Thumbsucking)

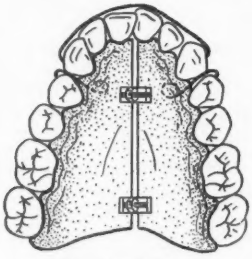
FIG. 8



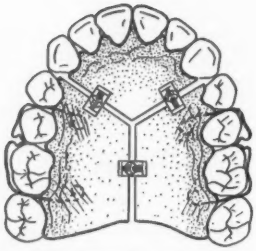
Palatal Plate With Finger Springs
FIG. 9

high enough so that the lower incisors strike the plane just before the posterior teeth come into occlusion (figure 7).

Inclined Incisal Plane with Labial Arch. The inclined incisal plane can be combined with an active labial arch as in the bottom of figure 7 to intercept an early Class II division 1 malocclusion noted during the mixed dentitional period (6 to 12 years). Early use of the inclined incisal guide plane in combination with a labial arch greatly reduces the length of time required for later more complete



Expansion Screws
Narrow Arch with High Vault



Expansion Screws
for movement of
Individual Segments

With Expansion Spring
for Cleft palate

Palatal Plate for Expansion (Expansion Plate, Schwarz-Plate)
FIG. 10

relationship especially in those cases showing a false Class II molar relationship caused by habits or "convenience." The incisal guide plane must be made treatment by the orthodontist. In mild cases, if used early, this device often guides the teeth into adequate functional occlusion.

Palatal Plate with Crib

A wire crib such as shown in figure 8 may be incorporated into the palatal plate with an active labial arch wire to intercept an abnormal tongue thrusting habit or thumbsucking which has caused the protrusion of the upper incisors. The appliance can thus be used to eliminate the etiologic force causing the protrusion as well as to correct the protrusion itself. The combination is more effective than the correction of the teeth alone since the tendency to relapse is removed.

Palatal Plate with Finger Springs

Finger springs may be incorporated into the palatal plate to move individual maxillary teeth as in figure 9. Springs can be added to move incisors (or bicuspids) labially (or buccally). Springs can also be added to close space or to open space between teeth (see figure 9). This particular device can be used effectively in a great variety of situations and should be employed more widely by the general practitioner (Moore, 1952). A simple correction instituted at an early age may well prevent the disturbance of the entire arch and the occurrence of a major malocclusion later. The variety of simple levers and finger springs that can be used is almost infinite (Rabinowitch, 1952).

In the use of the so-called "finger spring," a long, recurved lever is more effective than a short straight lever arm. The former provides a more gentle force and acts over a longer period of time. The short straight lever arm exerts a strong force over a relatively short period of time.

Split Palatal Plate for Maxillary Expansion

The palatal plate can be split and expansion screws (or springs) inserted between the two halves in order to produce an active expansion of whole segments of the arch (figure 10). The use of the expansion (split) plate has been advocated for many years by Schwartz (1944) for the correction of many types of malocclusion. In this country the use of banded arch wires (edgewise arch, twin arch, etc.) has largely supplanted this mechanism because bands and arches afford the operator much more precise control over the movements of the individual teeth and enable a more "ideal" end result. The fact that the arches are tied in and fixed is also considered to be a definite advantage by many orthodontists—especially in recalcitrant subjects.

However, the split palatal plate still finds many applications in pedodontic practice. Figure 10 illustrates some of its uses. The expansion plate is particularly recommended for use in children with cleft palates. It combines the virtues of an obturator with a corrective appliance. It is especially indicated in those cases where extensive orthodontic correction is not available.

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Operative Procedures for the Mixed Dentition

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Editor's note:

Carl Miller is another of the Cleveland dentists who have contributed much to good dentistry for the children of our time. Born in New York in 1896, Carl served in World War I before his entry into Western Reserve Dental School. He began practice in Cleveland and soon became known for his manipulation of silver amalgam to its greatest strength and beauty. He has lectured in most of the States, and in Canada and has been active in the A.S.D.C. for many years, both in Ohio and nationally, having served on our Council.

Carl's wife, Lydia and his handsome young son have been his inspiration and guiding hands. We've been in their home and know whereof we write! To them we offer our congratulations, for Carl is an exemplary man, whom we are proud to call our friend and fellow worker.

A.E.S.

THOSE who include children in their dental service and perform that service skillfully and intelligently enjoy the respect and gratitude of a growing and interesting practice.

Suggestions about Child Behavior

One cannot expect cooperation from a preschool or even an older child who is unusually apprehensive about dental procedures due, perhaps to one of the following reasons:

1. It is the child's first visit to the dentist.
2. The child has had a previous unpleasant dental experience.
3. The child has heard of others' unpleasant experiences.

The dentist who has a general practice has the opportunity of suggesting to the mother who is a patient that she bring the small child or children with her during her appointment rather than engage someone to care for them at home, for a small child who is present during her mother's appointment becomes acquainted with the office, the personnel and observes the mother in the role of a dental patient. This procedure is invaluable because it prepares the little one for future dental experiences in a natural way and the child who has had this experience will never have to undergo the experience of a first visit to the dentist.

The Use of Radiographs

It is necessary that every effort be used to critically examine the dentition of the child. The very young child whose primary teeth are spaced to allow good examination of the proximal surfaces of the molars requires the simplest and easiest procedure, but the child whose teeth are carious and the proximal surfaces of which are not easily examined by explorer definitely needs radiographs. The use of small bitewings will definitely show caries and, in many cases, will demonstrate the depth of advanced cavities and to some extent will suggest the method of treatment. The picture of the deep cavity will

show two different reactions to caries. In some cases there will be pulpal reaction to the extent that the pulpal horns are receded and in their place there is definite secondary dentin, while in other cases there has not been this reaction and the apparent closeness to the pulp tissues will be a definite exposure after the decay has been removed.

Method of Care of Deep Caries

The problem of the deep cavity in the primary and young permanent tooth is serious. The method of treatment for both types of teeth is the same and in all cases the caries would be removed. There is not enough evidence of success in methods employed where the remaining caries can be left and the application of medicaments will stimulate the formation of secondary dentin. There are those cases, however, where complete removal of caries will nearly expose the pulpal tissue to the extent that the red color is noticeable although this tissue is not disturbed and no hemorrhage has taken place. This condition is more evident in permanent anteriors than elsewhere. In these cases the careful application of calcium hydroxide (in a paste of distilled water) can be applied with a pledget of cotton over which oxide of zinc and eugenol cement can be applied and the cavity filled. At a later date some of the oxide of zinc can be removed and the permanent filling of choice inserted.

Zander's investigation (1) of the reaction of the odontoblasts to oxide of zinc and eugenol cement in comparison to calcium hydroxide found that the former caused an inflammation while the latter stimulated a dentin barrier.

Exposures

The invasion of infection into the vital pulpal tissue presents a problem that must be capably handled. The first consideration in these cases is a dry and aseptic field of operation. The next consideration is to determine the condition of the pulp. If the tooth shows normal vitality to ice before exposure and there is little evidence that the patient has suffered prolonged dull pain, there is the possibility that infection is not serious. Upon exposure, if the hemorrhage is of arterial blood and flows freely, the tooth is probably healthy. If the hemorrhage is dark and gushes out, there is evidence of inflammation and serious infection. Such teeth have a history of prolonged ache and will not respond to any recognized treatment other than pulpectomy. This tooth should be removed in the young dentition.

The two procedures by which the exposed, healthy pulps may be treated are capping and pulpotomy.

There is not enough evidence of a successful pulp capping procedure to warrant its use. In a pulpotomy the removal of the coronal pulpal tissue by clean and sterilized large round burrs will leave an exposure of the vital tissue at the orifices of the root canals. The flushing out of the hemorrhage and debris by the anesthetic solution as suggested by Burwasser (2) is a practical procedure.

The application of dry calcium hydroxide to the hemorrhage, or in a paste formed by mixing the powder with sterile water or anesthetic solution can be done with a large pledget of sterile cotton. To cover the layer of calcium hydroxide is the next step. Since the direct application of zinc phosphate cement may disturb the fragile first layer, it has been my practice to use a thick mix of oxide of zinc and eugenol which can be carefully packed into place without any disturbing effect. Over this, one can effectively apply a strong phosphate cement and completely fill the cavity.

At a later date the cavity can be reprepared, some of the phosphate cement left as a substantial base, and the permanent filling inserted.

A word of caution should be given in regard to the method of removing the coronal pulpal tissue. The use of spoon excavators is contraindicated because the leverage of these instruments may pull strands of the vital tissue from the root canals.

The method of sterilizing instruments as suggested by Burwasser (2) in using a molten metal sterilizer is most practical and expedient and there is enough evidence of success in pulpotomy procedures to warrant its use.

Treatment of the Deep Cavity

Cement bases are quite necessary in the deep cavities of the young permanent teeth because the large tubulae are sensitive to galvanic and thermal activity. It is generally accepted that the primary tooth is less sensitive than the permanent, and the primary tooth of the seven year old probably needs less pulpal protection than a young primary tooth of the four year old child.

The very deep cavity in the primary tooth should have base protection because the pressure of condensation of amalgam can affect and even disturb the pulp. A thin layer of tooth structure over the vital tissue is rather a poor insulation to heat and cold as well as galvanic activity and particularly to the volume changes of amalgam.

Amalgam

Comprehensive research has given the dental profession practical clinical procedures which can, to a great extent, control the variables of amalgam and increase its strength (3, 4, 5). These procedures are definite, painstaking and even arduous, but the results are gratifying especially in permanent teeth which offer better clinical observations than the primary dentition. This statement is made with the full realization that the analysis of a filling is not of much research value until it has been functioning a few years.

Permanent Versus Primary Molars

It must be generally accepted that primary molars present characteristics which must to some extent govern the restoration. The strength of amalgam is determined by its volume as well as by its correct management. Improper depth of a class II cavity, especially at the axial pulpal step, may result in fracture of the filling and lack of adequate retention will allow creeping of the amalgam. The thinness of the enamel and the extension of the pulpal horns will not generally allow cavity depth in the primary tooth comparable to the permanent tooth unless considerable pulp recession has taken place. It is evident from these observations that the primary molar demands an amalgam restoration of the greatest strength and measures should be taken to develop a technic that will attain this objective.

Selection of Alloys

It has been suggested by Coy and Liebig (6) that the fine grain alloys offer many advantages and from their observations it seems reasonable that the coarser the grain the more difficult the management. Certainly it takes more time to properly triturate a coarse alloy and mercury than the fine variety. Accepted alloys are available in fine, medium and coarse grains.

Correct Ratio

The mercury-alloy ratio which the manufacturer suggests is that which their

alloy demands to meet the specifications of strength, flow and dimensional change. The suggested ratio is by weight and the least that we can do is to use balance scales to determine this correct apportionment.

Proper and Correct Trituration

Complete amalgamation depends on the correct ratio and the manner in which the two constituents are triturated. The common methods are namely the mortar and pestle, the fingerstall, and the mechanical amalgamator. The speed of amalgamation varies with the use of these devices. The usual directions for trituration with the mortar and pestle are one minute and a few seconds of mulling. The fingerstall method requires about half that time and the mechanical amalgamator six to ten seconds.

Overtrituration will cause initial contraction (7) and this variable should be avoided. A grinding action with the pestle, using enough force to pulverize the alloy, is the worst practice. Ordinarily the manufacturer's directions in regard to force of the pestle and the time involved will result in complete amalgamation. A clean mortar and pestle, roughened daily with carborundum powder, is an efficient device. At no time should mulling be accomplished in the palm of the hand. Rubbing the contents in a clean piece of rubber dam will efficiently mull the amalgam to the correct consistency. Freshly triturated amalgam is mercury rich, offering no apparent crepitus when rubbed.

Moisture Contamination

All alloys which are accepted by the Research Commission of the American Dental Association contain zinc. Contamination with moisture will result in delayed expansion by the formation of zinc hydroxide (8). This chemical reaction must be avoided to the utmost because excessive growth of amalgam in a cavity not only causes raised margins and general distortion but may result in ultimate fracture of marginal tooth structure and cavity walls.

The importance of this subject is not to be considered lightly and every means should be taken to avoid moisture in the cavity. Expansion from a saliva contaminated cavity results in excessive expansion comparable to mulling in the moist palm.

The Use of Uncrystallized Amalgam

Amalgam that is allowed to remain unused for a few minutes will usually be crystallized to the extent that uniform removal of mercury excess is difficult and even impossible (9). To make such a mass workable by adding more mercury will weaken the restoration (10). Amalgam should be used as quickly as possible after trituration, and very large restorations demand multiple mixes (5).

The Removal of Mercury Excess

It has been demonstrated that mercury removal determines the strength and the flow of amalgam (9). Amalgam of correct consistency which is abundant in mercury must be relieved of this excess before and during condensation. This demands the use of the squeeze cloth for each piece placed in the cavity and the removal of mercury excess during condensation. Mercury removal will not unbalance the amalgam.

Corrosion

A lesson is to be learned from the study of corrosion by Schoonover and Souder (12). Amalgamation plays an important part in this subject as suggested by this sentence, "Amalgamation must be thorough and must incorporate every particle during trituration in order that a homogeneous amalgam shall result."

About condensation they stated, "The filling should be such that there will be no crevices and cracks and a homogeneous surface will be obtained." About sealing the margins they further stated, "Amalgams are subject to destruction if they fail to seal the cavities. It is possible that the failure of amalgam to retain its margin may be accounted for by corrosion and pitting immediately below its marginal surface."

These observers gave a word of advice in regard to the sealing of the dentinal tubules with cements and varnishes, . . . "deep cavities containing large amalgam fillings that have not been sufficiently protected may develop such anodic and cathodic areas because of wetting of the base of the amalgam by fluids contained in the dentin portion of the tooth near the pulp chamber. . . . There need be no failure to seal the cavity for this type of cell action to occur."

A Homogeneous Filling

These observations obviously suggest an amalgam filling of unbroken continuity. In order to build a homogeneous restoration the form or matrix should be fixed and unyielding. Such a solid form permits more consistent condensation. Theoretically each layer of amalgam from the bottom of the cavity to the occlusal should be the same. This applies to the consistency of each piece placed in the cavity and the pressure of packing and the mercury removal. From the practical standpoint it is bad practice to start with mercury-rich amalgam and overpack with extra dry. Clinical experience has definitely demonstrated that fillings that are built with amalgam of the same consistency throughout have less surface corrosion.

The Matrix

One of the problems in amalgam technic is the establishment of a suitable matrix or form for teeth that have proximocclusal cavities. For the lone tooth or the cavity which has no adjacent tooth the soldered pinch band is the matrix of choice. Such a form is stable and can be easily reinforced with modeling compound to make it unyielding.

Ireland (13) suggests such a matrix for the proximocclusal cavity of the primary molar. There are some disadvantages, however, to this method. The problem of disengaging the band when an adjacent proximocclusal amalgam filling is completed is more serious than constructing the form. Either the amalgam has to set sufficiently to allow disengagement without injury to the restoration, or the soldered joint has to be opened and the band removed sectionally. Mercury can be carefully applied to the solder, and, in most cases, will soften the lead to allow the band to come apart, but it is necessary to prevent any of the mercury from diffusing into the amalgam. There is a psychological factor which one must consider in soldering a band while a small child looks on. Anything that is flamed makes him apprehensive of being burned when the band is applied to the tooth. For this reason, it is better that the soldering operation is done out of the operating room.

The matrix of choice for proximocclusal cavities of permanent, adjacent teeth is the matrix band which is sectional. The band is shaped to represent the proximal surface to be restored and is contoured to include at least one half of the crown of the tooth. The banding material of choice is stainless steel of .002″ thickness, which is smooth, will not absorb mercury, and will keep its contour. Such a band will allow the operator to shape the convexity in the contact area which is so important in the establishment of proper contact. This matrix becomes unyielding by the insertion of a wedge at the gingival and

the application of softened modeling compound into the interproximal embrasures.

There are many clinical advantages of this custom-built matrix. The disengagement of the modeling compound, the wedge and the band independently, allows the operator to leave the band in long enough to use it as a guide in preliminary carving of the marginal ridge. The band can be removed in the direction that it envelops the tooth either to the buccal or lingual without disturbing the unset amalgam. Adjacent proximocclusal fillings can be built by using two bands and the same method of wedging the gingival and the application of modeling compound. M.O.D. cavities can be filled, using this matrix. This type of matrix will apply to anterior teeth as well as to posterior teeth.

The difficulty of the reinforced sectional matrix is the mouth that cannot be kept dry enough to allow modeling compound to adhere to the tooth surfaces. In these cases some other type of band should be used. I wish to make a plea for the custom-built matrix. The mechanical type is cumbersome, especially for the small child and is not easily adapted to the cuspid, and offers some difficulty when being applied to the primary molar with the prominent buccocervical ridge.

The Rubber-Dam

For many years I have attempted to restore young permanent teeth in an operative field kept dry by the rubber dam. This procedure was often difficult because when applied to the first molar that was not completely erupted, clamps with gingival extensions were necessary for retention. This type of clamp demanded careful manipulation to avoid pain or tissue injury. As a result, local anesthesia became the usual procedure. The results over a period of years have justified this method. To provide a better operative field, primary molars were included in the dam application. Often carious primary teeth were restored in this manner.

Fully erupted permanent or primary molars offer no problem in adapting the rubber-dam and without anesthesia the procedure can be comfortable and easy. Generally no concern is given to the sensitivity of primary teeth during cavity preparation.

It is not my desire to give the impression that the dam is used on every child or that it is even necessary. Many capable operators have given invaluable service in the field of pedodontics for years, building restorations of amalgam that are above criticism and to my knowledge never use the dam for their restorative dentistry. To attempt the rubber-dam application in the pre-school child who is apprehensive during the first visit, is poor judgment, but to one who understands its application in a delicate and painless manner, its use will save time as well as assistance (14).

The Procedure of Building the Restoration

Sweeney (3) and Ireland (13) have given the profession a set of amalgam condensors which are adequate for the average permanent or primary class II filling. The unique design of these condensors is such that they they are shaped to fit the cavity and are ledged so that mercury removal is performed during condensation. A small piece of mercury-expressed amalgam is placed in the cavity and with a rocking action is carefully pressed against the gingival floor with enough pressure to cause the appearance of mercury to the surface. This mercury rich amalgam is immediately removed by the ledged instrument. Another small

piece is added and firmly condensed, making sure that the amalgam is packed into the retention areas, and seals the gingival floor and proximal angles. Each step is the same until the occlusal is reached, making certain that the excess mercury is removed from each layer. A small piece of amalgam of the same consistency is added for overpacking and is condensed with a rubber-faced instrument which conforms to the irregularity of the cavity outline and the occlusal surface. The pneumatic condensor may be used for this latter operation. As the mercury appears in generous quantities with this resilient instrument, it is wiped off. Condensing in this manner will result in a homogeneous filling and the occlusal surface is firmly condensed at the margins.

Carving

Occlusal carving should be started before the band is removed. The banding material offers an excellent guide for the shaping of the marginal ridge. The band is removed buccally in the direction that it envelops the tooth, thus rounding the contact. The proximal is carved next and any overhang, especially at the proximal gingival angles, is removed. Generally there is no gingival overhang if the wedge is properly adjusted.

Polishing

Amalgam should be polished. By the use of discs, finishing burs, and buffing with brushes and a paste of silex and water, a gloss is attained.

Appreciation of the Value of the Mixed Dentition

Appreciation of the value of the primary and young permanent teeth results in operative behavior that is complimentary to this dentition. The second primary molar determines the position of the six year molar and every means should be made to retain such an important dental member. The first primary molar is also important and it seems reasonable that a person in the period of greatest physical development should possess as complete articulatory apparatus as possible. Dental defects such as loss of contact of primary molars, deep sensitive cavities and pulpal exposures are as painful with the small child as with the adult. Accepting the fact that the child's primary teeth should be kept in a functional and healthy condition, it is reasonable to suggest that every means be taken to rebuild those teeth with strong and unchanging restorations.

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Unit News

New York

For the activities of the N. T. Unit the editor quotes Sidney Kronfeld and M. Joel Freedman on their report "Membership Program in Action." To say the least it certainly is 'food for thought' to all Units.

"Following the Recommendations of the Executive Council of the New York State Society of Dentistry for Children, the Membership Committee has been fostering the establishment, and helping to guide the progress, of local Units and groups. This policy was adopted as part of a program of expansion through decentralization of the Society's activities, with the twin aim of enthusing present members and attracting new members to the Society.

"The Metropolitan Unit of the Society (covering the area of New York City and its environs) in operation since June 1952, is considered a pilot, experimental organization whose methods, if successful, can be adopted by other groups throughout the State. In addition to holding large, general meetings on topics of interest to the membership (ascertained by means of a questionnaire) the Metropolitan Unit has been concentrating its energies on the formation of small, local study groups, formed in response to the stated needs of the participants. These groups are located in areas convenient to the participants, so that not too much time and effort are needed to reach them. For example, groups on the same subject are held simultaneously in various boroughs and communities of the greater city and its surrounding parts. It is planned that at the conclusion of the sessions of these study groups, all those studying the same subject will gather together for a general symposium. It is also expected that enthusiastic members of these groups will stimulate the formation of other similar ones, so that the number of active groups will increase by geometric progression . . .

"To summarize briefly, the program of the Metropolitan Unit may be called a "Give and Get Membership Program," aiming to give its members more opportunities for active participation in the work of the Organization, and thereby to get more members. Other local Units, already organized or in the process of organization, may use the experiences of this Unit as a guide."

Arizona

The Arizona Unit has just been formed and looking forward to great accomplishments. At the state meeting an election produced the following results:

R. D. Rucker, Tucson, President
J. P. Leibold, Phoenix, Vice President
R. A. Meese, Tucson, Secretary-Treasurer

Sincere best wishes for progress.

Southern California

Ninety-five members and guests attended the final meeting of 52–53 for the American Society of Dentistry for Children which was held on May 25, 1953. Prior to the social hour, dinner and evening speaker, a business meeting was held with the election of officers for the next year. Results of the election were as follows:

President, Harold Barnes

President-Elect, C. Thomas Havey
Vice-President, Roy Bourquin
Secretary-Treasurer, John O. Whitaker

Incoming President, Harold Barnes, presented to our hard working out-going President, Stewart Anderson, a beautiful plaque.

Doctor Herman Becks, head of the Division of Dental Medicine, University of California, was our after-dinner speaker. The emphasis of his talk was on the use of carbonated beverages and sugar and their direct influence on dental health.

Oregon

From Mott Erwin comes the following news about the activities of our Oregon Unit:

Our September meeting was generally absorbed by the 1952 U of O Dental Alumni sessions held at the college but did feature a luncheon at which Dr. David R. Witter spoke as Director of the Dental Division of the Oregon State Board of Health on "The Present Status of Fluoridation of the Water Supplies in the State of Oregon."

The November meeting featured the usual all afternoon session before which Dr. Harold Noyes, Dean of the U of O Dental College presented "Orthodontic Interests for the General Practitioner." This was followed with a dinner meeting and social hour and a general discussion of the afternoon's program.

The January meeting featured again the afternoon session with Dr. Charles A. Sweet who presented colored slides and talk on "Various Phases of Pedodontics Services." This was followed by a dinner and social hour in joint meeting with the Portland District Dental Society before which Dr. Sweet spoke upon "Economics and Practice Management."

The March meeting was absorbed with the sessions of the Oregon State 1953 Dental meeting. A special luncheon was held before which Dr. David R. Whitter again evaluated the "Fluoridation Picture" here in Oregon. Later in the month a dinner meeting was held as a business meeting with the nomination and election of officers for the next year.

Our May meeting featured for the afternoon session Dr. Dave Law, Head of the Dept. of Pedodontics at the School of Dentistry at the U of Washington whose presentation was "Some of the Less Common Problems of Pedodontic Service." This was followed by a social and dinner hour with general discussions and closing with the installation of officers and a recess of activities until next September.

Northern California

On Wednesday, April 8, 1953, the postgraduate faculty of the College of Physicians and Surgeons gave the well-deserving Charles A. Sweet, Sr. a testimonial dinner.

Dr. Sweet is leaving P & S to accept the position of Director of Dental Health in the Oakland Public School system.

With Charlie's brother, Clifford, in attendance, Charlie was presented a token of appreciation by his friends who had gained much from his teaching and inspiration.

Dr. John Tocchini did a splendid job as chairman for the affair and Dr. F. Heywood Norton mystified the audience with his tricks of magic.

* * *

Dr. Helmut A. Zander was the principal speaker at the breakfast meeting held on April 13 at the Fairmont Hotel and as would be expected Dr. Zander gave an excellent presentation.

The attendance was overflowing and many members were turned away from the breakfast but returned to hear the

Above—Earl Lampshire and Laren Teutsch
Left—Dean Teuscher, A.S.D.C. President.

Joe Cabot's camera story of the Michigan Unit activities, 1952–53

President Mel Noonan, Charlie Sweet, Sam Stulberg.

The pretty girl is Helen Dodson!

George Teuscher, Mel Noonan, Earl Lampshire, Bill Brown.

Joe Hartsook, Paul Sydow, Warren Schneider, Tiny Konikow

Willard Hunnicutt from Georgia

Right—
Several visiting celebrities

lecture and see Helmut's incomparable colored slides.

* * *

In answering Uncle Sam's call, John Tocchini has had to resign as president-elect and Carl Ellertson, Jr. has taken his place with our faithful correspondent Edward S. Mack being selected as vice president. Sincerely wish John a nice tour of duty.

Iowa

Word from Kenneth Wessels informs your editor that the Unit is functioning and growing pleasingly well. On April 6, the annual meeting was held in Waterloo and the election results follow:

Glenn C. Miller, Waterloo, President
Kenneth E. Wessels, Iowa City, President-Elect
James H. Devaney, Cascade, Vice President
Elmer C. Prall, Mount Vernon, Secretary-Treasurer

Earl Lampshire was the principal essayist for the above meeting.

Michigan

At the annual meeting held in April the M.S.D.C. elected a fine slate of officers for the 1953–4 season.

William E. Brown, Jr., President
Ross F. Scharfenberg, Vice President
Joseph Cabot, Secretary-Treasurer

Walter McBride gave a fine talk on the advancement in dentistry for children in the past twenty-five years. Outgoing president Mel Noonan was presented with a golden gavel.

Missouri

Monday evening April 13, the Missouri Unit met at Washington University School of Dentistry. A panel discussion was held on the important subject of "Pulp Management". Moderator was John Gilster; panelists, Frank Gruchalla, Edward Herman, Carl Lattner and Roy Kolb, Mascoutah, Illinois (We snagged him out of the Illinois Unit for this meeting). The annual election of officers was held with the following results: Carl Lattner, Pres.; John Holland, Vice-Pres.; John Gilster, Secy-Treas.; and Vernon Truetzel, Corresponding Secy.

The Missouri Unit's annual picnic was held on July 18 this year. It was the usual pleasant and enjoyable combination—athletics for the athletes and bull sessions for the bull-slingers!! (Ed note: What?! No pictures of Corny in her new bathing suit?)

The Pterygomandibular Space in Relation to Effective Mandibular Block Anesthesia for Children

WILLIAM F. VIA, JR., D.D.S.

Editor's note:

Bill Via is a graduate of Ohio State University School of Dentistry, 1945. After 25 months of service with the Navy, he returned to part-time teaching at O.S.U. and also conducted a private practice. In 1951, he became a full time instructor at the Univ. of California College of Dentistry, became acquainted with Charlie Sweet and was persuaded to enroll at Michigan in 1952, to obtain his M.S. in Pedodontics, which should be forthcoming in August 1953. We understand Bill is to take over the pedodontic phase of dentistry at Detroit's Henry Ford Hospital after September.

A.E.S.

AN INTIMATE knowledge of the relations of the structures in and surrounding the pterygomandibular space is an essential factor in obtaining adequate anesthesia of the inferior alveolar and lingual nerves regardless of the patient's age, sex or size.

REVIEW OF LITERATURE

Four excellent references on the anatomy of the adult pterygomandibular space are available (5, 7, 8, 9). The pterygomandibular space is shaped somewhat like a truncated pyramid with the base posterior. Its vertical lateral boundary is the ramus of the mandible and the insertion of the temporal muscle (7). The medial wall is the lateral surface of the external pterygoid muscle as it courses downward and lateralward from the pterygoid fossa to its insertion in the pterygoid tuberosity at the lower quarter of the internal surface of the ramus. The sphenomandibular ligament forms part of the medial wall (see Fig. 1). It comes downward and forward from the angular spine of the sphenoid to attach to the lingula and is in close proximity to the lateral surface of the internal pterygoid muscle.

Superiorly, the pterygomandibular space is limited by the under surface of the external pterygoid muscle. Posteriorly, the lateral part of the space is bounded by the parotid gland, the medial part of the posterior boundary communicates with the infratemporal space. Anteriorly, the pterygomandibular space is separated from the oral mucosa by the buccinator muscle, a small part of the pterygomandibular raphe, and occasionally, a part of the buccal pad. At the most inferior part of the anterior boundary, the pterygomandibular space communicates with the submandibular niche between the ramus and the insertion of the internal pterygoid muscle. This site is the point of exit from the pterygomandibular space for the lingual nerve (5, 7, 8).

Access to the pterygomandibular space is gained through the pterygotemporal depression (5) (pterygomandibular triangle (4, 7, 8), a slight depression seen in the oral mucosa covering the space between the internal oblique line, the temporal tendon inserted into it, and the

pterygomandibular raphe overlying the anterolateral aspect of the internal pterygoid muscle.

The pterygomandibular space contains the lingual nerve, inferior alveolar nerve, inferior alveolar artery and vein, some branches of the pterygoid plexus through the pterygomandibular space obliquely from above and proceeds downward and lateralward to enter the mandibular foramen (8). It follows an S-shaped course when the mouth is closed, first downward, then downward and lateralward, then downward to enter

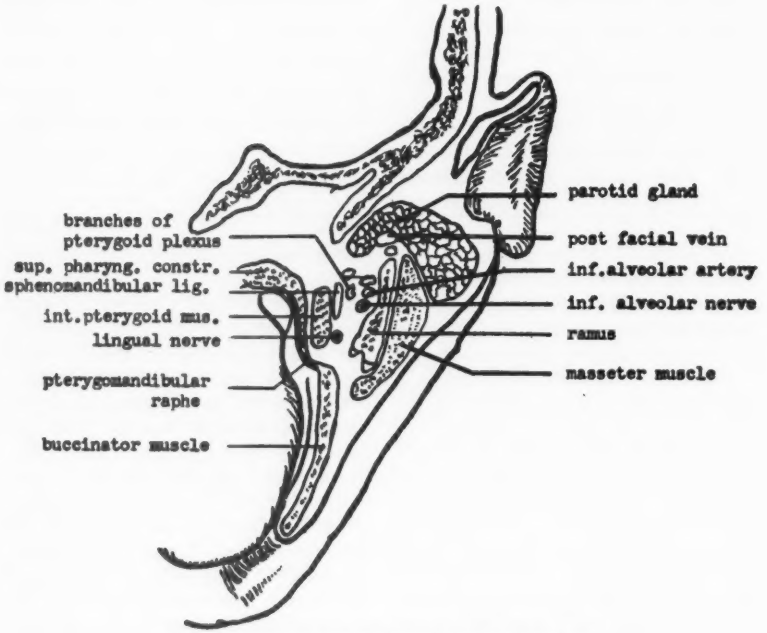

FIG. 1. Horizontal section through mandibular sulcus

of veins, connective tissue and some fat (5, 7, 8) (see Fig. 1).

The inferior alveolar and lingual nerves enter the pterygomandibular space between the internal and external pterygoid muscles, thus, at their entrance into the space, they are separated from the ramus of the mandible by the external pterygoid muscle.

The inferior alveolar nerve passes the mandibular foramen (7, 8). When the mouth is opened, however, the inferior alveolar nerve is stretched almost straight, and as the condyle comes forward, it lies close to the groove of the neck of the condyle (8). The nerve is in contact with the ramus only where it enters the mandibular foramen (8).

The lingual nerve lies slightly anterior to the inferior alveolar nerve as they

enter the pterygomandibular space. It follows a similar S-shaped course, but is directed more medialward and anterior to the inferior alveolar nerve to exit from the space at the submaxillary niche formed by the angle between the anterior border of the internal pterygoid muscle and the ramus of the mandible.

The part of the internal surface of the ramus which forms the lateral wall of the pterygomandibular space, exhibits six structures whose position and relationship must be understood. (1) The mandibular sulcus (3, 5) is that part of the (2) groove of the mandibular neck (7, 8) closest to the mandibular foramen. The groove of the mandibular neck is a shallow depression which seems to be an extension of the mandibular canal upward and backward from the mandibular foramen. (3) The mandibular lingula which forms the medial wall of the mandibular foramen and attaches the sphenomandibular ligament. (4) The attachment of the sphenomandibular ligament behind the lingula forms the posterior boundary of the groove of the mandibular neck. (5) The ridge of the mandibular neck forms the anterior boundary of the mandibular sulcus and the groove of the mandibular neck. (6) The mandibular foramen which is located midway between the anterior and posterior borders of the ramus slightly below a line bisecting the ramus at its least anteroposterior dimension (5, 7, 8). The mandibular sulcus, the point of proper injection to reach the inferior alveolar nerve with anesthetic solution, is located on the line bisecting the least diameter of the ramus two-thirds of the way back from the anterior to the posterior borders (3, 4) (see Fig. 2).

Variations exhibited by the anatomy of the preschool child from that of the adult's anatomy of the pterygomandibular space have been described (1, 2, 4, 6).

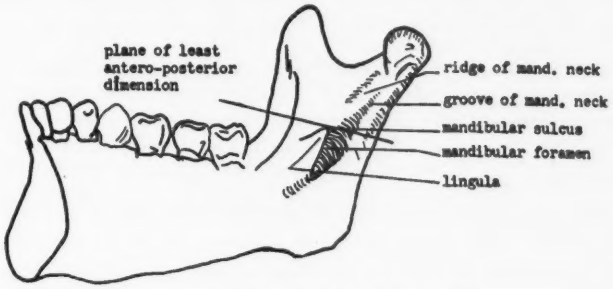

FIG. 2. Medial aspect of the adult mandible

The mandibular sulcus of the preschool child is located relatively lower and more posterior than that of an adult (1, 2, 4, 6). The height of the ramus is shorter in the preschool child, the angle is more obtuse and the width is narrower (1, 2, 4, 9).

The flare of the ramus is unpredictable. It may be normal, inward or outward, depending upon individual variations (4). The internal oblique ridge is seldom present in the preschool child and the depression in the oral mucosa between the attachment of the temporal muscle and the pterygomandibular raphe sometimes is absent (4).

There are four landmarks which determine the position of the mandibular sulcus, the point of entry, the direction of thrust and the depth of penetration of the needle in performing an inferior dental block.

1. The concavity of the anterior border of the ramus (3, 4).

2. The concavity of the posterior border of the ramus (3, 4).

3. The pterygomandibular raphe (1, 2, 3, 4, 5, 6, 7, 8).

4. The posterolateral wall of the mandibular sulcus (1, 2, 3, 4, 5, 6, 7, 8).

these points, the operator palpates with thumb and finger the anterior and posterior borders of the ramus and locates the concavity in each. A line connecting these digits now would indicate the plane of least anteroposterior dimension of the ramus. The mandibular sulcus will be located two-thirds of the way back on this imaginary line drawn between the centers of these concavities (the plane of least anteroposterior dimension of the ramus).

The direction of thrust in the vertical plane is made parallel to the plane of least

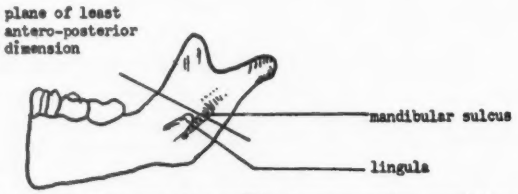

FIG. 3. Medial aspect of four year old mandible. Compare vertical angulation of needle thrust from occlusal plane with that of Fig. 2.

DISCUSSION

Most investigators (1, 2, 3, 4, 5, 6, 7, 8) agree that the mandibular sulcus is the ideal site for deposition of a solution in order to anesthetize the alveolar nerve. At this position, when the mouth is open, the inferior alveolar nerve is in close proximity to the surface of the bony wall of the sulcus. The position of the sulcus is predictable and the connective tissue and fat, filling the sulcus and the part of the pterygomandibular space in the route leading to the sulcus, is amenable to the passage of the needle and the reception of an anesthetic solution.

The position of the mandibular sulcus is constant when the concavity of the anterior and posterior borders of the ramus are used as landmarks. To find

dimension of the mandible. It is noted that the angle formed by the syringe with the occlusal plane will not be constant for all patients due to the differences in the angulation, width and height of the ramus (Compare Fig. 2 and 3). Therefore, paralleling the plane of least dimension and picturing the mandibular sulcus as being two-thirds of the way back between the two palpating fingers, is the method of choice for use in the preschool child's mouth.

Palpating the concavity in the anterior and posterior borders of the ramus also will indicate the amount of flare of the ramus for which one must compensate and determine the amount of horizontal angulation, as measured from the sagittal plane which the needle must have in order to reach the mandibular sulcus:

The injection is accomplished by picturing the position of the mandibular sulcus and aiming the needle directly toward it after passing through the point of entry into the pterygomandibular space.

The point of entry is on the level of the center of the concavity of the anterior border of the ramus about halfway between the anterior border of the ramus and the pterygomandibular raphe. This point corresponds to the center of the pterygomandibular triangle (4, 7, 9), or pterygotemporal depression (5) seen in the adult. The depression usually is not seen in those patients under the age of seven years.

The posterolateral wall of the mandibular sulcus serves as the limiting landmark for the depth to which the needle is thrust. This bony wall must be felt with the point of the needle if a completely successful anesthetic of the inferior alveolar nerve is to be obtained. After the initial puncture, the needle should meet no resistance until it strikes the bony wall of the mandibular sulcus. Meeting with resistance and not striking bone are both indications that the needle has not been directed properly.

The lingual nerve lies anterior and medial to the mandibular sulcus. If the anesthetic is deposited at a point about one half the distance from the site of entry to the mandibular sulcus, either on the way into the sulcus or when withdrawing the syringe, adequate anesthesia of the lingual nerve also will be accomplished.

The possibility of entering the inferior alveolar vessels, or a branch of the pterygoid plexus, always exists because their position is not predictable. For this reason, a syringe which permits aspiration to test whether a vessel has been entered should be used.

Summary

This report has presented a review of the literature concerning the normal adult anatomy of the pterygomandibular space and the known deviations from the adult anatomy found in the preschool child. The evidence indicates that the position of the mandibular sulcus is in a constant relative position on the plane of least anteroposterior dimension of the ramus of the mandible. The location of the mandibular sulcus in relation to the occlusal plane, anterior border of the mandible and angle of the mandible, is variable due to aging changes in angulation, width and height of the ramus.

A more thorough investigation must be made of the aging changes of the other components of the pterygomandibular space before their exact position can be determined in the preschool child.

The landmarks palpable with finger and needle point which determine the point of entry, direction and depth of thrust of the needle have been described.

Conclusions

1. The mandibular sulcus is the ideal point to deposit anesthetic solution in order to anesthetize the inferior alveolar nerve.

2. The mandibular sulcus of the preschool child is located two-thirds of the way back on a line connecting the centers of the concavities of the anterior and posterior borders of the ramus of the mandible.

3. The point of entry of the pterygomandibular space is on the level of the center of the concavity of the anterior border of the ramus in the mucosa half-

way between the anterior border of the ramus and the pterygomandibular raphe.

4. The horizontal and vertical angulation of thrust is determined by the observed flare of the ramus and the plane of least anteroposterior dimension of the ramus, respectively.

5. The depth of penetration by the needle is limited by the posterolateral bony wall of the mandibular sulcus.

Henry Ford Hospital *Detroit, Mich.*

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September 26-27, 1953

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PROGRAM

FRIDAY SEPTEMBER 25

6:30 PM to 10:00 PM—Aviation Room

DINNER MEETING FOR EXECUTIVE COUNCIL

SATURDAY, SEPTEMBER 26

9:00 AM to 12:00 Noon—Grand Ball Room

EXECUTIVE COUNCIL and STATE DELEGATES' MEETING

12:00 Noon to 2:00 PM—Petit Cafe

PRESIDENT'S LUNCHEON honoring Essayists, Clinicians, and Committee Chairmen
SPEAKER, Anna G. Thorpe, Superintendent, The Cleveland Christian Home for Children—HOW TO HELP A CHILD TO BE A GOOD DENTAL PATIENT

1:00 PM to 4:00 PM—Aviation Room

LADIES HOSPITALITY ROOM

2:00 PM to 5:00 PM—Grand Ball Room

ESSAY PROGRAM
PSYCHOLOGICAL ASPECTS OF THE CHILD PATIENT
George W. Teuscher, Presiding
ORTHOPSYCHIATRY—ITS PART IN THE PREVENTION OF CHILDHOOD DISTRESS
Oscar B. Markey, M.D.
Chief of Psychiatric Staff, Mt. Sinai Hospital
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EMBRYOLOGICAL INFLUENCES on MAXILLARY MALFORMATIONS
Samuel W. Chase, A.M., Ph.D.
Professor of Histology and Embryology, School of Dentistry, W.R.U.
MY TECHNIQUE FOR HANDLING THE NEW CHILD PATIENT
G. A. C. Jennings, D.D.S.
Practice Limited to Children for 27 years

SUNDAY SEPTEMBER 27

9:00 AM to 12:00 Noon—Aviation Room

TWO MOTION PICTURES, shown alternately

1. LIFE IN THE ORAL JUNGLE, showing motile micro-organisms, and exotic scenery; produced in Japan; Color.
   Dr. Robert Bruckner, Western Reserve University, Cleveland, Ohio
2. CAROL VISITS THE DENTIST, depicting a pre-school child's first dental appointment; Color.
   Dr. Samuel Stulberg, Detroit, Michigan

SUNDAY SEPTEMBER 27

1:00 PM to 4:00 PM—Grand Ball Room

GENERAL BUSINESS MEETING AND ELECTION OF OFFICERS

6:30 PM—Rainbow Room

ANNUAL BANQUET Dress informal
Honoring Dr. and Mrs. George W. Teuscher
ENTERTAINMENT
THE CLEVELAND HEIGHTS A-CAPELLA CHOIR
Dr. George Strickling, Director
THE FAMILY ALBUM
Mr. and Mrs. Edward Kuekes

TABLE CLINICS

SUNDAY, SEPTEMBER 27

9:00 AM to 12:00 Noon—Grand Ball Room

1. GROUP CLINIC, Supervised by Dr. Harold Addelston and Dr. Sidney M. Kronfeld, College of Dentistry, New York University
   - A. VITAL PULPOTOMY FOR PRIMARY AND IMMATURE PERMANENT TEETH
     Dr. Melvin Bellet
   - B. SPACE MAINTENANCE
     Dr. Elias Fass
   - C. X-RAY TECHNIC AND INTERPRETATION IN PEDODONTICS
     Dr. Joseph G. Keller
   - D. AMALGAM RESTORATIONS FOR PRIMARY TEETH
     Dr. Abraham Kobren
   - E. CAST RESTORATIONS FOR PRIMARY TEETH
     Dr. Isidore Samuels
   - F. LOCAL ANESTHESIA IN PEDODONTICS
     Dr. Mark Wallach
2. CLINICAL PATHOLOGY IN PHOTOGRAPHS
   Dr. Charles L. Boyers, The Childrens Hospital, Boston, Mass.
3. HISTOLOGICAL EVALUATION OF PULPOTOMY
   Dr. M. Michael Cohen, The Boston Floating Hospital, Boston, Mass.
4. PULPOTOMIES IN A PRACTICE FOR CHILDREN
   Dr. Mitchell S. Goodman and Miss Nancy Dawney, Columbus, O.
5. ENDODONTICS FOR THE PRIMARY TEETH
   Dr. Louis B. Kelsten, Beth Israel Hospital Dental Clinic, Newark, N. J.
6. PULPOTOMY FAILURES
   Dr. Ralph E. McDonald, Indiana University, Indianapolis, Ind.
7. AN AID TO REPLANTATIONS OF ACCIDENTALLY LOST TEETH
   Dr. Harold A. Maxmen, Detroit, Michigan
8. CLEFT PALATES
   Dr. Ross E. Long, and Dr. E. Wallin, Lancaster Cleft Palate Clinic, Lancaster, Pennsylvania
9. PERIODONTICS FOR CHILDREN
   Dr. Doris S. Stewart, University of Pittsburgh, Pittsburgh, Pa.
10. CHILDREN'S DENTISTRY AS A PRACTICE BUILDER
    Dr. Lester I. Webb, Harrisburg, Illinois
11. THE USE OF CHROME STEEL IN CHILDREN'S DENTISTRY
    Dr. William P. Humphrey, Denver, Colorado
12. DENTAL PROBLEMS IN CEREBRAL PALSY
    Dr. Manuel M. Album
13. DENTISTRY FOR THE CEREBRAL PALSIED
    Dr. Stanley R. Spiro, The Dental Guidance Council for Cerebral Palsy, New York City.
14. AIDS FOR CEREBRAL PALSY CHILDREN
    Dr. Milton Gellin, Cleveland, Ohio
15. THE HEMOPHILIAC CHILD AS A DENTAL PATIENT
    Dr. Evelyn M. Strange, St. Louis, Mo.
16. FIXED AND REMOVABLE PROSTHESIS FOR CHILDREN
    Dr. Albert L. Anderson
    Dr. J. C. LONGLEY
    Dr. J. D. McGaugh, San Diego, California
17. PROSTHESIS FOR CHILDREN
    Dr. David L. Webber, Springfield, Mass.
18. SPACE MAINTENANCE IN CHILDREN'S DENTISTRY
    Dr. John E. Boyle, Winnetka, Illinois
19. CROWN PLANES
    Dr. Helen Dodson, University of Detroit, Detroit, Michigan
20. DIAGNOSIS AND TREATMENT OF UNERUPTED TEETH
    Dr. Naomi Dunn
    Dr. Irving Eichenbaum, New Britain, Connecticut
21. THE PEDODONTIC-ORTHODONTIC MANAGEMENT OF CLEFT PALATE CHILDREN
    Dr. George P. Pendo
    Dr. Francis M. Calmes
    Dr. Herbert L. Hayward, University of Kansas City, Kansas City, Mo.
22. BASIC TECHNIQUES FOR REPOSITIONING TEETH
    Dr. James Jay, Columbia University, New York City
23. FIXED SPACE MAINTENANCE FOR THE PRIMARY AND MIXED DENTITION
    Dr. Roy L. Lindahl, University of North Carolina, Chapel Hill, N. C.
24. ABNORMAL PRESSURE HABITS AND CORRECTIVE APPLIANCES
    Dr. Norman H. Olsen, Northwestern University, Chicago, Illinois
25. APPLIANCES TO RE-OPEN SPACE
    Dr. Edith Straus
    Dr. Bernard Z. Rabinowitch, Los Angeles, California
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    Dr. John Revesz, Cleveland, Ohio
27. PREVENTIVE ORTHODONTICS
    Dr. John W. Richardson, Cleveland, Ohio
28. LOWER ACRYLIC GUIDE SPLINT
    Dr. Quentin M. Ringenberg, Chanute A.F.B., Illinois
29. THE CORRECTION OF CROSSBITES AND MALOCCLUSION RESULTING FROM THUMBSUCKING
    Dr. Charles A. Sweet, Jr., College of Physicians & Surgeons, San Francisco, California

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The Effect of Barbiturates on Dental Stimuli

ROY L. LINDAHL, B.S., D.D.S., M.S.
Chapel Hill, N. C.

Editor's note:

Roy Lindahl is a native Southern Californian, now Assistant Professor of Pedodontics at Chapel Hill. The two years he spent at Michigan, pursuing his M.S. degree tempered him and imbued him with a proper regard for the Mid-West!

Married, father of a boy and a girl, Roy admits to an enthusiasm for square dancing, accordian playing, golf and relaxation. In school however, his ambitious efforts brought him the honors of Omicron Kappa Upsilon, Blue Key and Psi Omega.

The accompanying article could go much farther than it does, and we agree with Roy's conclusion that more work in this area is desirable. Perhaps John Brauer or Willie Demerritt can stimulate Roy to pursue the work!

A.E.S.

IN THE practice of dentistry for children one encounters patients with whom it may be desirable to administer premedication. The compounds of barbituric acid have been used but their effect on the threshold of pain is not fully understood.

The study which is to be reported in this paper was completed in an attempt to gain a better knowledge of the effect of a barbiturate and of a barbiturate in combination with an analgesic compound upon the reaction of a patient to dental stimuli.

I. REVIEW OF THE LITERATURE

Ziskin and Wald (9) studied electrical stimulation as a diagnostic aid in determining the vitality of the pulpal tissue of teeth. The apparatus which they utilized had a source of electric current which was constant and of a known wave form. Their findings indicated that impedance of the tooth varied inversely with the frequency of the stimulating current. The threshold for stimulation of the pulp was found to vary directly with the frequency of the stimulating current and it was found further that frequencies between 1000 cycles and 5000 cycles seemed to separate the responses of the pulp and periodontal membrane in some instances.

Hardy, Wolff and Goodell (3) devised an apparatus which was used to create a sensation of pain on the forehead of

an individual. The stimulus was applied to a spot on the forehead which was painted with black India ink and was 3.5 centimeters in diameter. The light beam from a 1000 watt light bulb was directed at the spot and an automatic shutter was used to block the light after exactly three seconds. The intensity of the light was increased until the patient felt pain on his forehead at the end of the three-second period of testing. Using three subjects, they found that sensations of pain and heat apparently are not intercepted by the same physiological apparatus and that pain in one part of the body raises the threshold of pain in another part of the body.

Wolff, Hardy and Goodell (8) used the apparatus which they devised to study the effect of various drugs upon the threshold of pain. At the completion of their study of acetylsalicylic acid, in which 0.03 grams to 1.8 grams of the drug were administered, it was found that the height and duration of the threshold-raising effect increased with the amount of acetylsalicylic acid administered from 0.06 grams to 0.3 grams. The maximum effect of the aspirin was observed with doses of 0.3 grams or over. The threshold of pain was increased within ten to fifteen minutes after ingestion of the analgesic and continued to increase at different rates until the peak effect for the particular amount ingested had been reached.

Ziskin and Zegarelli (10) noted that radiographs alone were not sufficient to make an accurate diagnosis of the condition of the pulpal tissue in a tooth. These investigators expressed the opinion that the most accurate means to determine the pulpal condition is to stimulate it by an electrical current. They found that anterior teeth are more sensitive than posterior teeth and that there is no significant difference in the threshold of response for sex or race. The thresholds of responses were comparable in sound teeth and filled teeth. Readings of microamperes and volts were recorded in the study and it was noted that the microampere readings were more accurate.

Hart and Weaver (2) observed the analgesic and hypnotic effect of barbiturates on rats. The testing apparatus used was a modification of that used by Hardy, Wolff and Goodell (3). The results of this study indicated that one cannot rely on the barbiturates to reduce sensitivity to pain.

Keats, Beecher and Mostellar (5) attempted to show that experimental pain and pathologic pain are different and that no valid conclusions can be drawn from studies which investigated the effects of various agents upon experimentally induced pain. Patients who had undergone major surgery were studied. The drugs given to the patients were unknown to the investigators until after the tests were complete. The results indicated "That pain as it is usually produced experimentally, does not reproduce the pain of disease or trauma; but it is not so certain as to what extent conclusions from experimentally produced pain apply to naturally occurring pain."

Keats and Beecher (4) studied the effect of pentobarbital sodium, morphine sulfate and normal saline on postoperative pain which resulted from major surgery. It was noted that 50 per cent of the patients were relieved by pentobarbital sodium, 80 per cent were relieved by the morphine sulfate and 20 per cent were relieved by the saline solution.

Kutscher and Chilton (6) utilized the Hardy, Wolff and Goodell (3) method to correlate the threshold of pain on the skin of the back of the hand with the reaction to stimuli during dental pro-

cedures. They concluded: "There was little relationship between the pain threshold as measured by radiant heat and (1) the individual patient's reaction to pain felt during dental procedures, (2) his subjective fear of pain, or (3) his own estimation of his pain threshold."

Dille (1) writes that the exact mechanism of action of acetylsalicylic acid is not clearly understood but suggests that its principal action may be one of depression on the optic thalamus which blocks impulses of pain that arise from the periphery of the body before they reach the more discriminating areas of the cerebral cortex. "Salicylates do not produce effects of anesthesia or sedation which would indicate that they have an action on the cortex" he writes.

Taylor (7) studied the Burton Vitalometer to determine if it were a suitable instrument with which to evaluate differences in the thresholds of pain of teeth. With the Vitalometer he tested the central incisors of six male graduate students. The teeth tested were without a history of trauma, cavitation or pain. Four electrolytic media were studied and it was determined that normal saline solution is the most satisfactory electrolyte to use in conjunction with the Vitalometer. Statistical analysis of his data revealed that the Vitalometer is suitable to use in evaluating the threshold of pain in teeth.

II. Method of Testing the Accuracy of the Vitalometer

For the present study the instrument selected to administer stimuli to the teeth was the Burton high frequency Vitalometer. This instrument is constructed to administer electrical stimulation to the tooth to be tested. The electrical source for this instrument is a 110 volt to 125 volt, 60 cycle, alternating current, power line. The portion which connects with the power line is a step down transformer which reduces the voltage utilized by the instrument to four volts. The transformer is connected by a wire to a variable inductor which permits a control of the amount of voltage. The variable inductor has a scale with fourteen divisions which are numbered from one to fourteen. A push button on the variable inductor permits the operator to open and close the circuit and also to increase the flow of electricity through the apparatus. An electrode, which when held in the hand by the patient becomes a capacitor, is connected to the variable inductor. The electrode which is applied to the tooth is connected to the electrode which is held in the hand. The portion of the electrode which is applied to the tooth is blunt and is made with a concave surface to which an electrolytic solution is applied. The electrolyte then serves to conduct the current from the instrument to the tooth to be tested.

Analysis of the consistency of performance was made before any patients were tested and after all the tests were completed. It was decided that if the results of the analyses were the same it then could be assumed that the performance of the instrument had remained constant during the period of testing with patients. A more accurate technic would have involved the analysis of the instrument during each period of testing with a patient but this method was not practical for this study.

The Vitalometer was tested in the laboratory using a Dumont type 274 Cathode Ray Oscilloscope. The push-button on the scale of the Vitalometer was depressed to introduce the current. The push button was placed at each of the numbered divisions on the scale and

a reading was made from the screen of the oscilloscope. The readings obtained during this test appeared to be sufficiently constant to permit the use of the Vitalometer in this study. After all of the patients were tested the Vitalometer was analyzed for consistency of performance. The readings were recorded and were compared with the initial readings. The final readings were found to be higher than the initial readings. While the final readings were being recorded it was observed that the vertical upward amplitude on the oscilloscope screen was smaller than the vertical downward amplitude. This phenomenon was not noticed when the initial readings were taken. It cannot be stated that the Vitalometer performed consistently during the period of testing with the total group of patients. It is believed, however, that results with this equipment are sufficiently accurate to be of practical significance.

III. Method of Testing Barbiturate and Barbiturate Compound

The patients selected for this study were adults who were familiar with dental treatment. It was concluded that people with a background of acquaintance with dental procedures and the purpose of the test would be able to provide more objective responses than the uninitiated.

The period of testing each individual patient was two hours. An incisor or cuspid tooth was selected which had no history of severe trauma, caries experience, or pain. The tooth was isolated with cotton and dried with compressed air. The electrode of the Vitalometer was dipped into normal saline solution and then applied to the incisal third of the surface of the tooth. The same Vitalometer was used for all tests. The button on the scale of the Vitalometer was depressed to allow the current to pass through the circuit. During the test the current was increased by quarter units of the scale. The quarter units had to be estimated because they are not indicated on the scale of the Vitalometer. As each quarter unit was reached there was a pause for approximately two seconds to permit the penetration of the additional current. The current was increased in this manner until the patient indicated that he felt a sensation in his tooth. Three readings were secured at each interval during the testing.

To obtain more accurate results it was decided to make a "blind test" of the drugs. Thirty capsules were prepared, ten with pentobarbital sodium, 1½ gr., ten with a mixture of acetylsalicylic acid, 5 gr., and pentobarbital sodium, 1½ gr., and ten with lactose. Thirty envelopes were numbered one to thirty and in each was placed a capsule. All capsules appeared alike. All the envelopes were sealed and were not opened until given to each individual patient. The drugs and dosages were not known to the examiner until after all thirty tests were completed. All patients were instructed to avoid eating during the four hours preceding the test.

The patient was given the capsule after the initial test had been made on the tooth to be used and the operator watched the patient swallow the capsule. Three readings were taken every fifteen minutes the first hour and every twenty minutes the second hour repeating the same technic that was used on the tooth at the beginning of the period. An average of the three readings was calculated at each interval.

A notation was made for each patient of his age, sex and weight and the patients were not permitted to observe the readings during the period of testing.

IV. Discussion

This study was completed by testing fifteen male and fifteen female patients whose mean age was 26.6 years. The median age of the group was 26.0 years.

After the work with the total group of patients was complete the contents of the capsules and the dosages of the drugs used were made known to the operator. The records were then sorted into three groups according to the drugs administered and the data were submitted to statistical analysis. The Vitalometer readings of each elapsed time interval were recorded as a group and the mean was calculated. This calculation was made for each time interval of all three groups. The standard error of the mean was also calculated and it was noted that the findings were not statistically significant but that there was a tendency for the threshold of pain to rise in the group to which a combination of acetylsalicylic acid and pentobarbital was administered. A graph was drawn to illustrate the results of this study (Fig. 1).

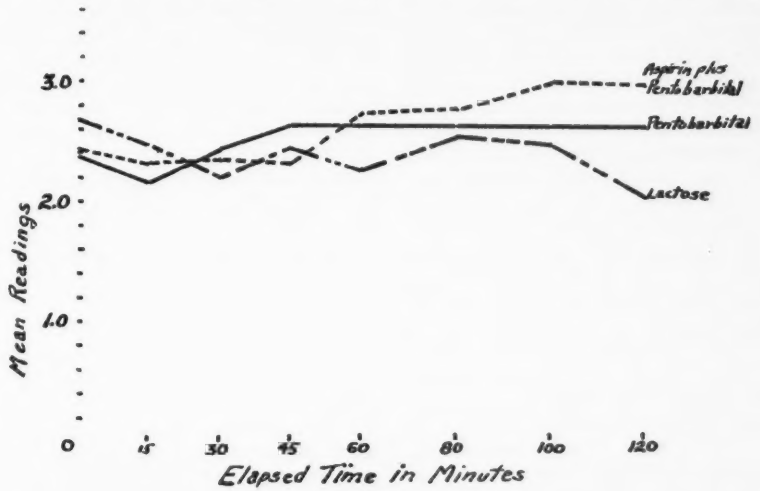

Fig. 1

It may be observed in each of the three groups of patients studied that at the fifteen minute interval following the initial reading there was a tendency for the threshold of pain to lower. In the acetylsalicylic acid-pentobarbital group this tendency did not appear at thirty minutes or at forty-five minutes. These mean readings were approximately the same as the mean readings at the fifteen minute interval. After sixty minutes had elapsed with the acetylsalicylic acid-pentobarbital group a sharp rise in the mean readings was noted and this rise continued at a slower rate at the eighty and one hundred minute intervals. The rise appeared to cease in the interval between the one hundred minute and one hundred and twenty minute intervals.

The mean readings of the pentobarbital group began to show a rise in the threshold of pain thirty minutes after the in-

gestion of the drug following a decreasing threshold of pain after fifteen minutes. The rise continued at about the same rate until the readings were taken after forty-five minutes after which the threshold of pain remained at a constant level until the end of the period of testing.

In the lactose group the tendency for a decrease in the threshold of pain continued at approximately the same rate for thirty minutes after which a rise was noted. This rise was followed by another tendency to lower at sixty minutes which was followed by a rise at eighty minutes. For the remainder of the time during the test the threshold of pain was lowered to a level which approximated the original level as determined by the initial reading before the capsule was administered.

Upon examining the initial mean readings of all the groups it was noted that those for the lactose group were higher than those for the other groups, which were both close together. These readings were taken before the drugs were administered so one would expect that all three of the groups would have approximately the same initial mean readings. If the sample were larger this discrepancy might have been avoided.

If it were possible it should be advantageous to repeat this study by testing the same patients using the same drugs. The test should be completed "blind" as it was in this study because such a method achieves an objective result. It would seem that more work should be completed in this area of research so that a larger sample may be obtained, more drugs may be tested and the results may be found statistically significant. The size of the sample in this study apparently was too small to be significant. Further study of this problem should utilize a testing instrument which will permit the evaluation of the current and voltage while each test is being made on a patient.

V. Summary

This study was completed to gain a better knowledge of the effect of a barbiturate and of a barbiturate in combination with an analgesic compound, upon the reaction of a patient to dental stimuli. A review of the literature has been completed, the method of testing the consistency of the Burton Vitalometer has been described and the method of testing the patient's reaction to the drugs has been reviewed. The data obtained were studied and were found not to be statistically significant. There appeared to be a tendency for a rise in the threshold of pain in patients to whom pentobarbital sodium, 1½ gr., and a combination of acetylsalcylic acid, 5 gr., and pentobarbital sodium, 1½ gr., was administered. A larger sample may produce significant results.

VI. Conclusions

1. Experimentally the Vitalometer presents a variable which cannot be controlled by the operator.

2. An apparatus should be devised which will permit the analysis of current and voltage during each period of testing with a patient.

3. Results with the Vitalometer are sufficiently accurate to be of practical significance.

4. Pentobarbital sodium, 1½ gr., may be administered in combination with acetylsalicylic acid, 5 gr., to increase the threshold of pain.

5. Pentobarbital sodium, 1½ gr., should be administered to the patient 30 minutes to 45 minutes before the dental appointment.

6. More work is indicated in this area of research.

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Around the Country

In the absence of our newsgathering editor, *Laren Teutsch*, I shall attempt to keep the column going. *Laren* finds himself in what is an altogether too common position today—he is now a member of the armed forces. We all wish him luck and hope his tour of duty will be a short and pleasant one.

* * *

Dr. Sam Harris, whose name should be practically synonymous with the A.S.D.C., is still doing a terrific job. His most recent contribution to the advancement of the Society and of dentistry for children, as well, was to organize a group of twenty-five dentists in Chile, and sponsor their subscriptions to our Journal. Congratulations and thanks to you, *Dr. Harris*, and welcome to our new South American friends.

* * *

Speaking of South America, in a very fine and interesting letter to *Al Seyler*, *Dr. Vicente Latorre* of Manta, Ecuador, asked to start his subscription to this Journal. *Dr. Latorre* wrote that he is soon to realize a long-standing dream of his—he will establish a dental clinic for children in Manta. The letter was very complimentary to our organization, our Journal, and to dentistry in the United States as a whole; for which, many thanks, Dr. Latorre!!

* * *

Charles A. Sweet is no longer with the College of Physicians and Surgeons, San Francisco. He is now Supervisor of dental health education, a public health position, in the Oakland, California, public schools.

* * *

George E. Waterman, assistant chief of the Division of Dental Public Health of the U.S.P.H.S., gave an excellent report on the Richmond, Indiana, Dental Demonstration Study in a recent Illinois Dental Journal. He discussed the efficient utilization of dental assistants in accomplishing more and better dental work.

* * *

Allen O. Gruebbel, secretary of the Council on Dental Health of the A.D.A. since 1944, resigned that position, effective June 1. On August 1, he assumed his new duties as professor of operative dentistry and associate director of the clinic at the University of Kansas City School of Dentistry. A loyal A.S.D.C.'er, he is a welcome addition to our Missouri Unit.

* * *

George W. Teuscher of Chicago is the new dean of Northwestern University Dental School. The appointment was announced June 17 and became effective July 1. *Dr. Teuscher* is President of the American Society of Dentistry for Children. Chairman of the pedodontics department since 1935, he holds four degrees from Northwestern, D.D.S., M.S.D., M.A., and a Ph.D. from the College of Education.

* * *

Dr. Otto W. Brandhorst, President of the American Dental Association, retired as dean of the Washington University School of Dentistry, effective July 1. He had been dean since 1945 and a faculty member since 1915, the year of his graduation from the school.

* * *

According to a recent newspaper article, a new heart research project will be undertaken by *Dr. I. Irwin Beechen*,

chief of the dental clinic of Children's Hospital of East Bay, and by *Dr. Donald J. Laston*, clinical instructor of operative dentistry at the College of Physicians and Surgeons in San Francisco. They will attempt to determine if there is any relationship between some commonly used dental procedures and heart damage or blood infections in youngsters.

* * *

A survey of facts and figures in the Journal of the Illinois Dental Association showed that Illinois could claim 10 of the 86 recognized pedodontists in the United States.

* * *

Joseph G. Sweet II is currently acting as business manager of the Alameda County (California) District Dental Society Bulletin. He was chairman of the Oral Roentgenology section of the recent California State Medical meeting and participated in the program. He also appeared as a clinician at the Arizona State Dental meeting in April.

* * *

Dr. Ruth Martin was one of the principal essayists on the program of the Maryland State meeting in Baltimore in May. She also appeared on a panel discussion with *Helmut Zander* and *Harold Addelston* at the same meeting.

* * *

Neal Newton, erstwhile corresponding secretary for the Missouri Unit, is now in the Army, stationed near Munich, Germany. His wife expects to join him soon. (Hurry back, *Neal*, the children keep asking for that 'kid doctor'. Incidentally, the pedodontic staff at Washington University, in St. Louis, will be even more happy to see *Neal* return.)

* * *

Arlo Dunn, Omaha, Nebraska, has moved into a fine new office building of his own. Besides his office space, there is a suite for a physician, three apartments —and, this I like—a recreation room and kitchen for parties! Sounds like a mighty fine set-up, Arlo.

* * *

John Tocchini, South San Francisco, gave a clinic before the California State Dental Association meeting. Topic: "Rubber Dam Application, Individual Adaptation, Primary Dentition."

* * *

Charles A. Sweet, Jr., Oakland, was chairman of the Pedodontic section of the recent California State meeting.

* * *

M. Michael Cohen, pedodontist and past-president of the Massachusetts Unit of the A.S.D.C., is a member of the Brookline Health Department. A recent Brookline Health Bulletin carried a fine article by Mike on "Dental Care of the Pre-School Child." The text and terminology was leveled at the non-dentist health officer or to the layman. He pointed out the importance of good nutrition for proper development of the teeth; explained the need for maintaining the primary dentition for function and for guiding the permanent teeth into correct alignment. In quoting a recent survey of Brookline pre-school children, he emphasized the need for early and prompt dental attention.

* * *

Kenneth Lawrence, Kansas City, was recently appointed chairman of the Committee on Dentistry for Children of the Missouri State Dental Association. *Cornelia M. Thompson*, St. Louis, is co-chairman of the committee.

* * *

James M. Jolly, St. Charles, former president of the Missouri Unit was recently released after a two year stint in the Army. He is planning to take

graduate work in orthodontics at Washington University, starting this Fall.

* * *

Edward S. Mack, San Francisco, has been appointed to the Dental Health Education Committee of the San Francisco Dental Society. *John Sowden* has been appointed to the Dental Assistants Coordinating Committee and to the Dental Health Education Committee of the San Francisco Dental Society.

* * *

Elmer Prall, Mt. Vernon, of the new Iowa Unit, showed us that his State is not only the place "where the tall corn grows" but is also where a Unit secretary acts promptly and efficiently. His list of the Unit's delegates and alternates to the Cleveland meeting was the first to land on Henry Wilbur's desk. (I hang my head in shame, for I am a Unit secretary!)

* * *

Much credit and praise is due *Paul Topel*, Melrose Park, Illinois, for the magnificent record made by the St. Paul Lutheran School of that city. The school has just graduated its twenty-fifth consecutive class with 100% caries-free teeth. Dr. Topel became the school dental examiner in 1931 and has served in that capacity ever since.

* * *

John E. Gilster, St. Louis, spoke before the Seventh District Dental Society at Louisiana, Missouri, early in June. Topic: "Children's Dentistry for the General Practitioner."

* * *

Kenneth Easlick, Joseph Hartsook, W. E. Brown and staff will be offering their post-graduate course in Dentistry for Children at the University of Michigan Nov. 30 to Dec. 11; February 22 (Those rascals never do take a holiday!!) to March 5, 1954; and May 17 to May 28, 1954.

* * *

Kenneth Wessells writes "After a lapse of several years, the Department of Preventive Dentistry and Pedodontics of the State University of Iowa will again offer postgraduate courses in Pedodontics. The first of several to be offered during the 1953–54 academic year will be a five and one-half day course beginning October 12. It will include clinical practice in the Children's Clinics of the College of Dentistry, as well as lectures and seminars in technical procedures, patient management and child development."

* * *

Florence Rich, St. Louis, is secretary of the American Association of Women Dentists this year. A well deserved recognition, *Florence*. Congratulations!

Diaper Derby

Not many entries this issue—

From Phoenix, Arizona comes news of the arrival of Mary Kathleen to the *Charles Mehlum's* on April 3 1953.

* * *

The *Laren Teutsch's* are happy over the arrival June 25, 1953, of a third son, Thomas Lynn. You're well on your way toward a basketball team, Laren!!

* * *

Ross Scharfenberg, V. P. of our Michigan Unit, announced the arrival of his second exemption, early in July. It's a girl!

Items of interest for this column should be sent to Dr. John E. Gilster, Editor, 4559 Scott Ave., St. Louis 10, Missouri.

Treatment of Fractured Anterior Teeth in the Young Patient*

K. E. Lawrence, D.D.S.

Editor's note:

We are reprinting this article by A.S.D.C.'er Ken Lawrence because it is brief and to the point on a subject we all encounter in our practice. We were interested too, to note the good result obtained in the case of Figure III, when zinc oxide-eugenol cement was used instead of the usual calcium hydroxide. We could speculate as to whether or not a band of nice secondary dentin in that completed pulp canal would make for a better prognosis over a long period of years. What do you think?!

A.E.S.

DENTAL practitioners usually agree that one of the most distressing problems confronting them is the caring for fractured incisors occurring in the young patients in their practice. There is no other place in dentistry where rendering too little or too much treatment can so seriously affect the dental health of the young patient.

In discussing the treatment of these fractured teeth, we must first classify them as to degree of severity and then recommend the treatment for each classification. These teeth can be easily classified into three groups. First, the simple fracture, involving the dentin very little if any. The second group is the more extensive fracture, involving the dentin considerably, but not involving the pulpal tissues. The third is far more extensive and does involve the pulpal tissues.

* From the Journal Kansas City District Dental Society.

The simple fracture, of course, is by far the most easily managed. This type of fracture rarely needs more than disking and polishing. These teeth should be radiographed and observed because there is always the possibility that they will become non-vital as a result of the trauma that they have been submitted to. The disking and polishing should be confined to a minimum at the initial treatment, and at a later date thorough blending of the fractured area into the natural contour of the tooth can be undertaken.

The second fracture group is more serious and requires more extensive treatment. These teeth should by all means first be radiographed to check that there is no fracture of the root, and determine the size of the pulp chamber. The treatment of this type fracture can be divided into three parts: The emergency or immediate treatment part, the temporary restoration part, and the permanent restoration part.

The main object in the emergency part of the treatment is to give protection and prevent shock to the tooth. This treatment can best, and should, be rendered as soon as possible after the accident. The tooth is thoroughly cleansed with warm water, isolated and dried with warm air. A temporary crown of some type is fashioned to retain a sedative cement over the fractured area. I advise the use of an orthodontic type of band using zinc oxide-eugenol as the sedative-cementing agent.

The orthodontic band with zinc oxide-eugenol cement treatment is left on the tooth for approximately six months. This

gives the operator an adequate observation period to see that the tooth is going to remain vital.

The most ideal permanent restoration is the three-quarter crown with porcelain or plastic window. This restoration serves very adequately, since it provides what we most desire—pleasing appearance, strength, and adequate protection from thermal shock.

The third group or more extensive fracture involving the pulpal tissues can be treated in two ways. Pulp capping is very often adequate if the exposure of pulpal tissue is not too extensive, and the patient is seen within a very short

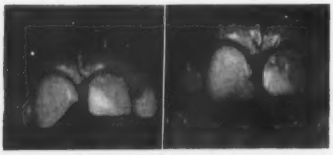

FIG. 1 and 2. Left: Left central restored with three-quarter crown-plastic window. Right central before preparation for three-quarter crown.
Right: Right and left centrals restored with three-quarter crowns-plastic windows.

time after the accident. The tooth is cleaned with warm water, dried with warm air, and phenol applied to the exposure paint on a small pledget of cotton. The same orthodontic type band and zinc oxide-eugenol cement is placed over the fractured area. The period of observation in these cases should be from six months to one year. The permanent restoration can again be the window three-quarter crown.

The more extensive fracture cases that involve a large portion of the pulp chamber are best treated by performing a vital pulpotomy on the tooth. There are several methods and drugs used to perform pulpotomies on vital permanent teeth. I would like to list step by step the method that I have found to be most successful in my hands. We do not expect these accidents to happen, therefore, a procedure involving a complicated technic, drugs, etc., is out of the question in most operators' hands. We should be capable of performing this operation with the instruments, drugs and materials that we have at hand each and every day in our offices.

Technic for performing vital pulpotomies on a vital permanent tooth.

1. Give a local anesthetic—infiltration on maxillary anterior teeth—conduction anesthesia on mandibular anterior teeth.
2. Isolate tooth. The placement of a rubber dam is the ideal, but in some accident cases this is impossible.
3. Sterilize area and tooth—seven per cent iodine is excellent for this purpose.
4. Using sterile #2 or #4 round burs, remove remaining dentin over the incisal of pulp chamber.
5. Using small sterile spoon excavators with as little trauma as possible, remove pulpal tissue from the coronal portion of the pulp chamber.
6. Gently pack the pulp chamber with sterile cotton. Allow to remain there a few minutes.
7. Remove cotton and pack pulp chamber with another pledget of cotton that has been saturated with U.S.P. liquid phenol. Be sure that the excess phenol has been removed from the cotton so that the pledget is only mildly damp with phenol. This will control the hemorrhage most adequately.
8. Mix a thin creamy mix of zinc oxide and eugenol and after the phenol-cotton dressing is removed, gently

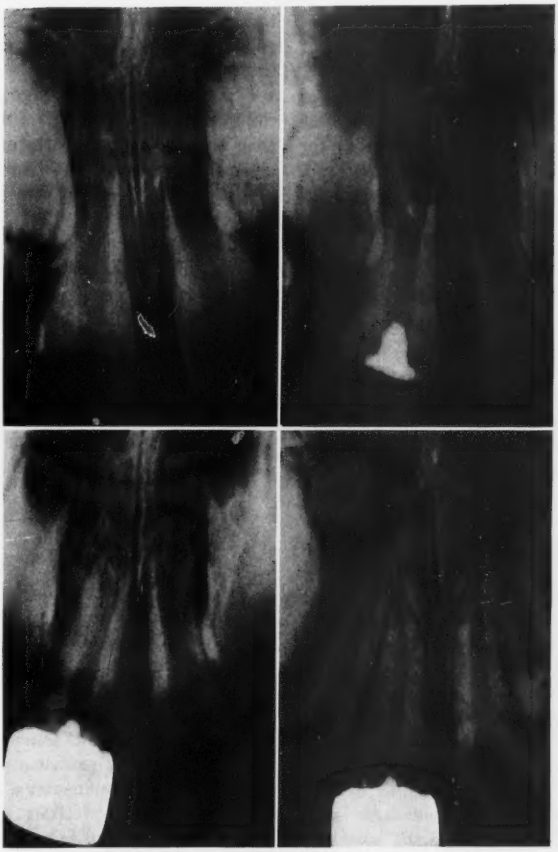

FIG. 3. Photographs showing a case in which a vital pulpotomy was performed: Top, Left: Preoperative radiograph. Accident occurred four days before this picture was taken. Top, Right: Post operative radiograph view shows zinc oxide eugenol paste in pulp chamber. Bottom, Left: Radiograph taken six months after pulpotomy procedure. Bottom, Right, Radiograph showing tooth eighteen months after pulpotomy procedure. Formation of root complete.

force into the pulp chamber over the pulpal tissue in the root canal. Be certain that no excess pressure is exerted on the zinc oxide-eugenol pulp chamber filling.

9. Place a thicker mix of zinc oxide and eugenol in an orthodontic band and gently insert to place over the fractured tooth.
10. After several months of observation

and checking by means of radiographs, a permanent restoration can be fashioned for the tooth.

We all know that every member of our profession desires to do what is best for every patient that comes to us for treatment. We also know that many times the common sense, uncomplicated methods of treatment that were good for patients in the past, are good for our patients today, and with our progress will be good treatment for the patients of the future.

I have not written on these pages anything that is new—it is nothing other than common sense treatment that will serve adequately to preserve the health of very vitally needed teeth in your patients and mine.

Kansas City, Mo.

An Appreciation

De Los L. Hill, D.D.S., F.A.C.D.*

ANDERSON M. SCRUGGS, D.D.S.
Professor of Dentistry, Emory University School of Dentistry

IN MAY, 1953, it was fifty years since DeLos L. Hill received his D.D.S. degree from the Atlanta Dental College. (The Atlanta Dental College is one of the two progenitors of the present School of Dentistry of Emory University. The Atlanta Dental College combined with the Southern Dental College in 1917, to form the Atlanta-Southern Dental College, and that college, in turn, became the School of Dentistry of Emory University, September 1, 1944.)

Dr. Hill was born in Atlanta, Georgia, May 14, 1874 and was married June 7, 1899 to Miss Gussie Henrietta Parkhurst, daughter of Mr. and Mrs. William Francis Parkhurst, of Atlanta.

Dr. and Mrs. Hill's only child, DeLos L. Hill, Jr., died in 1914 at the age of eleven years. The DeLos L. Hill, Jr., Memorial Dental Clinic for Children was founded, as a lasting public service memorial, to commemorate this only son born May 5, 1903.

Dr. Hill directed in his will that upon the death of his wife (who survives him) the residue of his estate be used for the advancement of dental education and for the establishment of a "DeLos L. Hill, Jr., Memorial Dental Clinic for Children," at the Atlanta-Southern Dental College. Mrs. Hill, however, desiring to see the clinic in operation during her own lifetime, generously contributed $50,000 from her own funds for the immediate establishment of the clinic. Consequently, on September 25, 1931, Mrs. Hill presented the Atlanta-Southern Dental College a check for $50,000, the interest on which was used for this purpose.

The first director of the clinic was Dr. Walter T. McFall, who served from 1934 to 1936. The opening of the clinic carried with it the establishment of a new department in the Atlanta-Southern Dental College, namely one for the teaching of "Dentistry for Children." During Dr. McFall's directorship, the clinic carried on its work in dental chairs segregated for that purpose in the main dental clinic of the college.

On October 7, 1937, the Children's Clinic moved into new quarters, adjacent to the main clinic in the Dental College building, but physically separate from the main clinic. A formal dedication took place on that date. The establishment of, and the equipment of this new clinic was made possible through an additional gift of $5,000 from Mrs. Hill's personal funds.

Dr. John C. Brauer, now Dean of the Dental School of the University of North Carolina, was Director at the time of the dedication, and served as Director during 1936–38. He was succeeded by Dr. Howard H. Burkart, in 1938 and Dr. Burkart was succeeded by Dr. Vincent M. Johnson, who served from 1944 to August, 1952. While the clinic is now temporarily without a Director, it is being staffed at the present time by Drs.

* From the May, 1953, issue of THE FRATER.

Frank F. Lamons, Charles M. Barnwell, John Bartholomew, Robert H. Corr, Willard T. Hunnicutt, H. D. Jaynes, Mary Lynn Morgan, Charles H. Smith, Thomas C. Stults and Wendell H. Taylor. At the time of the dedication, children up to the age of twelve, having residences in Fulton, DeKalb and Cobb counties, were admitted to the clinic provided the incomes of the parents of the children did not exceed the eligibility restrictions.

sively for the treatment of orthodontic cases. The walls of the clinics are attractively decorated with colorful story-book characters.

During the twenty-odd years the clinic has been in operation, it has given many thousands of treatments and extensive dental care (including orthodontics) to children of the Atlanta area for whom such care ordinarily would have been most difficult, if not impossible, to ob-

Mrs. De Los L. Hill presenting $50,000 check to establish De Los L. Hill, Jr. Memorial Dental Clinic for Children, Sept. 25, 1931

A bronze tablet, bearing the likeness of DeLos L. Hill, Jr., hangs on the wall of the clinic, along with photographs of his parents, Dr. and Mrs. Hill.

In December, 1950, Mrs. Hill made an additional gift for the purpose of equipping a demonstration clinic in connection with the children's clinic, and during the summer in 1951, the entire area of the clinic was remodeled and enlarged. The DeLos L. Hill, Jr., Memorial Dental Clinic for Children now includes an additional large room furnished with special children's equipment, and a clinic and laboratory used exclu-

tain elsewhere. At the same time, hundreds of dental students have been afforded excellent opportunities for training and development in dental health care.

Upon graduation, these students have brought to the communities of the Southeast one of the highest levels of child health care found anywhere in the United States.

Mrs. Hill's great benefactions and her continued zeal and interest in this clinic and in the dental health of children were recently publicly recognized by Lambda Chapter of Omicron Kappa Upsilon, Honor Dental Fraternity, when it elected

her an honorary member of the organization. Mrs. Hill has been one of the few laymen so honored, and is the very first woman layman to be so honored in any section of the country. Previous to this, Mrs. Hill was honored by the Psi Omega Dental Fraternity during the Dental Centenary Celebration held in Baltimore, Maryland, March 17–20, 1940. At this celebration, which marked the one-hundredth anniversary of the founding of the first dental school, Mrs. Hill was presented a testimonial in recognition

Early pictures of the Hill family. Left to Right: Mrs. De Los L. Hill; De Los L. Hill, Jr. (age 4 months); Dr. De Los L. Hill

of her service to dentistry and to Psi Omega Dental Fraternity. Mrs. Hill was honored again in September, 1952, when she was given a life membership in the American Society of Dentistry for Children, at their twenty-fifth anniversary meeting in St. Louis. The presentation was made by Dr. Frank Lamons, a past president of the Society.

In an appreciation of this kind, it is natural that we should wish to refresh ourselves with the career of Dr. Hill from the standpoint of its professional, educational, civic and personal aspects.

After Dr. Hill's graduation from Boy's High School in Atlanta, he worked as an accountant for a number of years before entering dental college. He graduated from the Atlanta Dental College in 1903 as Valedictorian of his class, and immediately after graduation was offered a teaching position in the college. In 1905 he was elected Professor of Physiology. He taught Physiology until 1917, when the Atlanta Dental College and the Southern Dental College combined to form the Atlanta-Southern Dental College. From 1917 until his death, he was Professor of Roentgenology, and of Ethics, Economics and Jurisprudence. For a number of years before his death, he served also on the Board of Trustees of the Atlanta-Southern Dental College.

He held many important offices in dental organizations, both local and national. He was Secretary and Treasurer of the National Association of Dental Faculties from 1918 until 1923. In 1923, he was elected Secretary and Treasurer of the American Association of Dental Schools, and in 1931 he was named President-elect of the Association. The Association suffered a great loss when

Dr. Hill died shortly before the date for assuming the presidency.

Dr. Hill was an honorary member of several state dental societies, a member of the Federation Dentaire Internationale, a Fellow of the American College of Dentists, and was a member of Omicron Kappa Upsilon Honorary Dental Fraternity. The Atlanta Society of Dental Surgeons (afterwards named the Fifth District Dental Society of Georgia) was organized in his office. Dr. Hill later served as Secretary of the Georgia Dental Society for several years, and as President in 1913.

As a charter member, Dr. Hill helped in the organization of the first Psi Omega Dental Fraternity chapter in Georgia. From 1916 to 1930, he was Supreme Councilor of the fraternity, and in 1930 he was chosen Supreme Grand Master.

There is a tendency in all of us to take great benefactors and benefactions for granted, and it seems to be particularly appropriate at this time to pay tribute to Dr. Hill and his wife, both of whom have meant so much to the growth and progress of dentistry, dental education, and dental fraternalism in Georgia and in the United States.

American Society of Dentistry for Children

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4

from your president's pen

The large attendance and excellence of the scientific sessions of the 22nd Annual Meeting held in Cleveland, attest to the flourishing growth of the A.S.D.C. This year more of our members were housed in our official hotel than in former years, which made for greater attendance at the business and clinical meetings. A hard-working local Arrangements Committee made clock-work of an outstanding program.

The American Society of Dentistry for Children now has 32 Units. This past year Unit activity was stimulated and increased by the Membership and State Units Committee. The benefits of Unit membership were made apparent by their reports and active participation in all sessions.

Our members at large—approximately 400 in number—point up a nucleus for many new Units. If a few members in non-Unit States will spark it, the required 20 Charter members will be an actuality in most states by the time of our next Meeting in Miami, November 5, 6 & 7, 1954.

In another part of the Journal is a list of states where Units do not exist. Let's do a job on Unit formation.

My best wishes for a Prosperous New Year to you all.

HUGH KEENAN

Annual Meeting
Cleveland
Ohio

E. Carl Miller and Frank Tuma, General Chairman of our 1953 Meeting.

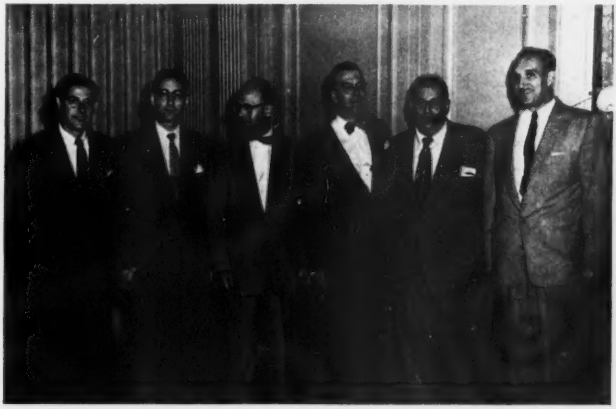
Registration—Herb Adelstein and Milt Gellin, Cleveland, at the desk.

E. L. Pettibone, Cleveland, Honorary Chairman, 1953 Meeting and Sam Harris, Detroit, Founder of A. S. D. C.

Hugh Keenan presiding at the State Delegates session.

Hal Addelston, New York, Sam Harris and Al Seyler, Detroit, Frank Tuma, Cleveland, Harold Berk, Boston, Sid Kohn, Jersey City.

Irv Eichenbaum and wife Naomi Dunn, Connecticut, Elsie Schildwachter, So. California, John Fulton, Washington, D. C., Bill Humphrey, Denver.



Larry Burdge, Red Bank (N. J.), Hugh Keenan, New York, Editor Al, Henry Wilbur, Louisville, Ben Rabinowitch, Army, Sam Harris.

Edith Straus, Los Angeles, Elsie Schildwachter, Ruth Rogers, Michigan, Regina David, Cleveland.

Paul Sydow (standing) Massachusetts, Hal Addelston, Willard Hunnicutt, and Silver John Clayton at Detroiter Helen Dodson's table clinic.

Harold Maxmen, Detroit, at his table clinic

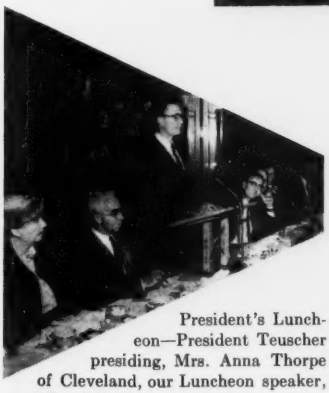
Ralph McDonald, Indianapolis, clinician, assisted (?) by Walter McBride and demonstrating to Ed Peaslee, Maine and Matt Besdine, New York.

Al Anderson, S. California, table clinician

Bill Humphrey of Denver, and his famous s.s crown clinic.

Milton Gellin, Cleveland, demonstrating his equipment for care of C. P.'s to Paul Barker of Denver.

The Annual Banquet on Sunday evening.



President's Luncheon—President Teuscher presiding, Mrs. Anna Thorpe of Cleveland, our Luncheon speaker, and Frank Tuma, to the left.

President's Luncheon—George Teuscher, Hugh Keenan, E. L. Pettibone, Sam Chase and Bill Stillson of Cleveland.

President Hugh Keenan at the Annual Banquet. Norm and Mrs. Denner, Cleveland to his right, Past President and Mrs. Teuscher to his left.

Al Anderson and Hugh Keenan in serious discussion!

Local Anesthesia in Dentistry for Children—Its Psychology and Technique

I. Irwin Beechen, D.D.S.

Editor's note:

Irwin Beechen is a graduate of Iowa, in 1939. After serving a U.S.P.H.S. internship in 1939–40, he worked with Charlie Sweet at P & S in San Francisco, where he is now an Assistant Clinical Professor. Irwin is a diplomate of the American Board of Pedodontics and practices in Oakland. He is a past president of our Northern California Unit.

A. E. S.

DENTISTRY WITHOUT PAIN—that is a challenge for every man who has the privilege of serving humanity in his chosen profession. Especially is this true with regard to the younger patients who may not have as yet had experience or formed an opinion as to dental treatment.

The most common referral to the dentist who professes a special interest in dentistry for children is the "management problem." This patient is so classified because he has reacted unfavorably to *being hurt*. The two most likely candidates for this problem are the very young patient and the slightly older child who is experiencing the repairing of incipient cavities in his first permanent molars.

In the first case, it may be his first encounter with the need for self-control in a situation to which his usual emotional level of response rebels. In the second because the dentist too often attempts to prepare the seemingly insignificant cavities without anesthesia. These teeth are acutely sensitive, particularly at their non-carious dento-enamel junctions, and the patient becomes fearful and resentful —probably rightly so.

The purpose of this paper is to describe the psychological and technical approach to the use of local anesthesia in children, hoping to encourage its more widespread use in routine procedures. Local anesthesia is used not only to prevent pain, but to increase the efficiency of the treatment by caring for sections of the mouth at each appointment in a properly planned program.

Preliminary Procedures

It is essential that any operative procedures must be preceded by certain fundamental steps. The first of these is a visual examination which must include the teeth and surrounding soft tissues, the entire oral cavity and throat, the occlusion and general physical appearance of the patient.

At this same appointment, an oral prophylaxis should be performed to allow for a more thorough inspection of the teeth and to permit the dentist and the patient to become acquainted. To complete the examination, it is necessary to make a full-mouth roentgenographic survey (Fig. 1) to more thoroughly detect all carious lesions, bone lesions, and anomalies in development.

It is well at this point to interrogate the parent regarding the general health of the patient, his medical and dental history, and any particular problem with which she may be concerned.

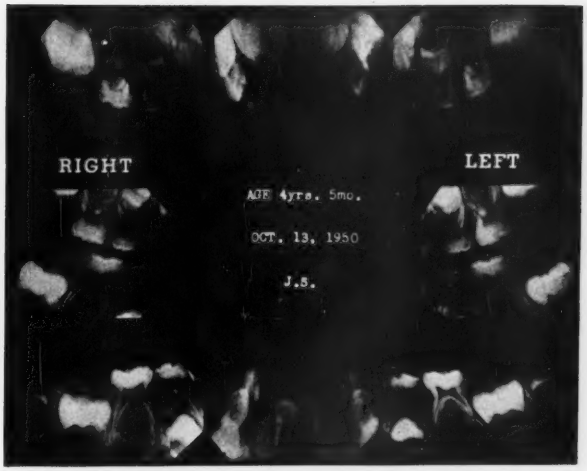


FIG. 1. Example of eight-film roentgenographic survey used in children prior to the eruption of the permanent cuspids.

TREATMENT PLAN

The roentgenographic and visual findings are combined to complete the examination, and a treatment plan is formulated. The length of the appointments to be made will depend upon the treatment to be rendered, the essential point being the arrangement of sufficient operating time to allow the completion of operative procedures in a quadrant of the mouth at each visit.

My experience has been that if there is a period during which the child is restless, it occurs during the first few minutes of the appointment, and that the patient will relax under guidance and anesthesia as the operation continues. Therefore, the length of each appointment should be governed solely by the amount of work to be accomplished in the designated area at this particular appointment, as outlined in the treatment plan.

EXPLANATION TO THE PATIENT

In younger children who cannot understand the situation because of their age, the following approach in a low, sincere, and convincing voice would be used:

"Mary, do you know you have some little brown bugs in your teeth? You do, and they are making holes in your teeth. You don't want little brown bugs in your teeth and mouth, do you? (Response is usually a negative shaking of the head, with eyes wide open) "Do you know what I am going to do? I am going to put your teeth to sleep, *but you will be awake*, and I'll chase those little bugs out. Isn't that nice? (Usually an affirmative nod) "Did you know a dentist can put children's teeth to sleep? Then we will fill the holes with silver and the teeth will get well."

The "teeth asleep" and "you awake" is very effective and creates much interest.

At some time during the appointment,

the following is stated: "Do you know where the brown bugs come from? They come from *sugar*, and you must learn to say 'No, thank you' when someone tries to give you sweets."

At each appointment the sugar problem is re-emphasized, and of course the parent is presented with factual information in booklet form, such as "ABC's of Dental Decay"[1] and encouraged to cooperate in a sensible program.

In the slightly older group, about six to ten years of age, I take them into my confidence by saying that if they were little children, I would tell them . . . and go through the above, but because they are older, they know what cavities are, so we are going to put their teeth to sleep (usually a slight snicker at this point) and fill the cavities.

In the age group above ten, I tell them the true reasons why dental treatment is necessary and how, by their cooperation and with anesthesia, it can be accomplished very easily. The important thing is for them to do everything possible to prevent future cavities; going into some detail and emphasizing the latter seems to distract them from the present problem.

For us to assume that children understand why dental care now may insure their whole dental future is taking too much for granted. An explanation at their level of understanding will serve as a bond between dentist and patient, and a feeling of friendship and trust will replace one of hostility.

Psychology of Administration of Local Anesthesia

In all instances in which a local anesthetic is to be administered, the syringe and needle should not be placed on the bracket table either before or following the making of the injection. The reason for concealment is obvious, but it is amazing how often this precaution is thoughtlessly overlooked. The syringe should be passed from a back or side table into the operator's hands so that he will receive it with the bevel of the needle in correct position for each injection that is made. The barrel is gripped between the first and second fingers with the thumb on the plunger.

As the dentist makes the approach, the patient's head should be held in such a manner that it cannot be raised from the headrest and directed by the dentist to "Look at me." Just as the needle reaches the injection site, remark, "Steady, you are supposed to feel this," and as the tip enters the tissue and the solution is slowly deposited, inquire, "Do you feel it?" The patient usually nods affirmatively. Then "That's good, you are supposed to" seems to relieve the situation.

A remark about the fact that the tooth is going to start feeling sleepy, and everything is just fine, as you complete the injection, is very helpful to the young patient.

It is the assistant's duty to situate herself so that if the patient starts to raise his hands she can gently lay hers across them and move them back to his lap. She should avoid grasping the hands or arms because this type of restraint might lead to struggling.

It has been my experience that the described method will produce cooperation without excitement. Of course, no psychology will serve to replace the necessity for a sharp needle. Also, staying in loose connective tissue for the initial deposition of solution is essential to its painless introduction.

Positions to Stabilize the Patient's Head During Injections

Whenever an anesthetic solution is injected, the operator should always hold

FIG. 2. Position when injecting the right maxillary dentition.

the patient's head in such a manner that he cannot suddenly change his position.

When anesthetizing the upper right posterior teeth, the dentist should position himself to the side and in front of the patient, the head being turned slightly away from him (Fig. 2). The mirror or index finger of the operator is hooked around the corner of the mouth and under the cheek to reflect it outward, to give free access to the buccal vestibule. The base of the palm of the hand is rested on the patient's temporal region, and the thumb may be gently placed under the lower border of the mandible. Thus the head can be stabilized between the operator's left hand and the headrest.

FIG. 3. Position when injecting the left maxillary dentition.

FIG. 4. Position when injecting the anterior maxillary dentition.

For the upper left posterior injections, the position of the dentist is to the side and behind, with the patient's head turned slightly toward him on the headrest. The left arm encircles the head, the mirror or index finger again is used to reflect the cheek, and the base of the palm presses the left temporal region (Fig. 3). In this way, the head is stabilized between pressure on the left temporal region and the headrest opposing. Additional stability is sometimes obtained by engaging the lower

border of the mandible with the little finger.

For the upper anterior injections, the position is the same as for the left posterior, with the arm encircling, the whole hand being used for stability, and the lip reflected with the first finger (Fig. 4).

This is also used in cases in which the lower anterior injection is to be made, reflecting the lip with the thumb and

FIG. 5. Position when injecting the anterior mandibular dentition.

cupping the chin with the fingers, again using the base of the palm against the side of the face for security (Fig. 5).

For the mandibular block on the left side, stability is gained by engaging the anterior border of the ramus with the thumb, the hand being inverted, and holding the posterior border of the ramus with the fingers. By gently pulling the head backward and toward the right against the headrest, security is gained (Fig. 6).

On the lower right, the anterior border

FIG. 6. Position when injecting to block the left inferior alveolar nerve.

of the mandible is engaged with ball of the forefinger, the posterior surface of the ramus with the thumb, and the base of the palm gently pressing against the side of the face, lifting the head backward and

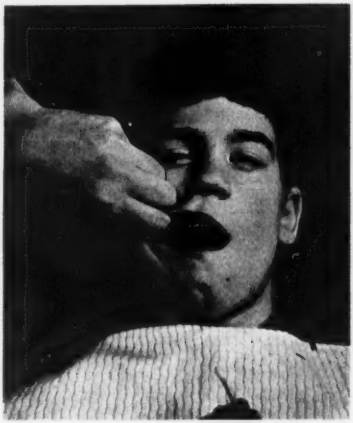


FIG. 7. Position when injecting to block the right inferior alveolar nerve.

toward the left side so a direct view of the area to be injected is clearly visible (Fig. 7).

Only light pressure should be exerted, so as to give a feeling of security and to discourage movement, but one should be very careful not to overdo and cause discomfort. Only the hands and headrest are in contact with the head, and gripping the head between the forearm and body, or leaning on the patient's shoulder or head will not give the same effect. When done, either intentionally or unintentionally, this is frightening.

Technique of Injecting Maxillary Primary Teeth

The *upper primary molar region* can be adequately anesthetized for all operative and pulpal procedures by a buccal supraperiosteal followed by a subperiosteal infiltration, a palatal injection being unnecessary except in cases of tooth extraction.

A sterile one inch, 26 gauge needle mounted on a carpule syringe with a short hub is used. The cheek is raised, and a topical anesthetic is applied on the highest reflection of the vestibule (Fig. 8) above the site of the future subperiosteal injection. In selecting that site, if both the first and second molars are to be operated upon, choose a point midway between the teeth, but if only one molar is to be anesthetized, directly above that tooth. After allowing two minutes for the topical to act, hold the tissue taut, and with the barrel of the syringe at a 45 degree angle to the face, insert the tip of the needle just under the mucosa, (Fig. 9) into the loose connective (areolar) tissue with a flicking motion. Infiltrate ½ cc. of solution slowly, making the remarks described earlier regarding "feeling this, etc." Withdraw the needle, keeping both the approach and the removal out of the patient's vision.

Fig. 8. First step—application of a topical anesthetic.

Fig. 9. Second step—preliminary infiltration into loose connective tissue.

After one minute the *subperiosteal* injection is made. Again the point of the insertion is governed by whether one or

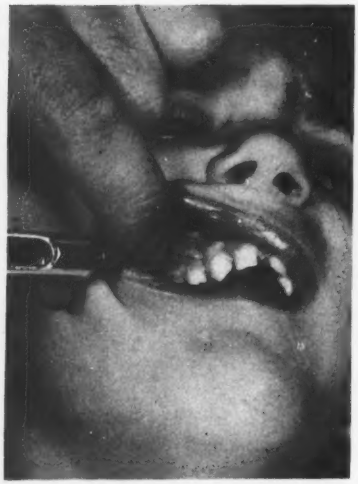


FIG. 10. Third step—start of the subperiosteal injection.

both molars are to be operated upon. If one, the insertion is aimed at the bifurcation of its roots, or if both teeth, at a point midway between them.

With the bevel of the needle held downward and the barrel of the syringe at right angles to the head, the tip of the needle is inserted at the white line that is always present and marks the junction of the attached and unattached tissue (Fig. 10). This is usually at about the level of the bifurcation of the roots and serves as an important and reliable landmark. Because this line has not been named and because it was first described to me by Dr. Charles A. Sweet as a guide in this technique, I would like to apply the name "Sweet's line" and in the future will refer to it as such.

When the tip of the needle has penetrated the periosteum, the syringe is swung downward so that the needle parallels the bone and the bevel lies against the bone. Sliding the tip under the periosteum to the level of the apices of the roots requires only about ¼ inch penetration (Fig. 11). One cc. of solution, injected slowly to prevent ballooning of the tissue, will produce anesthesia and because of the preliminary infiltration, can be painlessly accomplished.

There should be very little movement of the needle during the deposition of solution because keeping beneath the periosteum produces better osseous penetration and a second hole in this membrane only allows the escape of fluid.

If the cuspid is to be included in the field of operation, make the subperiosteal injection just anterior to the mesiobuccal root of the first primary molar, as previously described. Also supplement these injections by a subperiosteal injection of 1 cc. of solution in line with the disto-buccal root of the second primary molar. The latter seems to be necessary for adequate anesthesia and being remote from the initial injection, does not allow the escape of fluid to the

FIG. 11. Fourth step—completion of the subperiosteal injection.

extent of interfering with a successful result.

The infiltration technique for *primary anterior* teeth can be painful if improperly handled. Once again the initial injection is made high in the vestibule, as described previously for the molars, following the use of a topical anesthetic. Stay to one side or the other of the base of the nose for central incisors, and if all four incisors are to be anesthetized, make two primary injections above each lateral incisor. After this infiltration has produced soft tissue anesthesia, the subperiosteal infiltration is again used, using Sweet's line as the guide. Enter at right angles to the bone, then swing the syringe down the bevel of the needle against the bone; advance and deposit about 1 cc. of solution at the level of the apices.

The Nasopalatine Injection

Another method of inducing regional anesthesia for the anterior maxillary teeth is by passing a needle into the nasopalatine canal entering at the nasopalatine foramen.

A topical anesthetic is applied to the area of the papilla just lingual to the central incisor teeth. Approach the papilla from one side, inserting the tip of a 1⅝″-26 ga. needle from about a 45 degree angle, with the needle bevel held so it will eventually lie against the opposite wall of the canal, and expressing a few drops of solution to produce blanching of the tissue. Allowing a few seconds for anesthesia, swing the barrel of the syringe parallel to the incisors and slowly advance into the canal, injecting the solution in advance of the needle.

The common error is to position the needle and syringe at too great an angle from the palate. The needle should parallel the *roots* of the incisor teeth, not the crowns, and should nearly parallel the anterior third of the hard palate.

The needle is passed well into the canal to the level of the apices of the roots, slowly depositing about ½ cc. of solution. It is possible to obtain anesthesia of all four incisors with this injection alone. For operative dentistry and those cases in which surgical intervention is necessary, this technique is advantageous.

Technique of Palatal Injections

In those cases in which anesthesia is being employed for the removal of teeth or roots, or the elimination of infection, a palatal injection is necessary. For posterior teeth, the anterior palatine nerve is blocked at the posterior palatine foramen, rather than adjacent to the tooth or teeth. The advantage is that it is possible to make the injection in loose connective tissue rather than in the dense fibrous tissue covering the hard palate, thus making for a less painful insertion.

If the cuspid is involved, both the naso-palatine nerve and the anterior palatine nerve need be considered, as they anastomose in the palatal area adjacent to this tooth.

When anesthesia has been established by a buccal injection, the palate is approached through the interseptal tip between the cuspid and first molar. Holding the syringe at right angles to the buccal plate, and with the bevel superior, pass through this tissue, just missing the tip of bone and expressing solution ahead of the needle. Blanching of the palatal tissue will be observed, and just insert deep enough for this to occur. Should additional palatal anesthesia be desired, this can then be accomplished by a direct insertion of the needle without discomfort.

This same technique described by Sloman[2] is used when palatal anesthesia

FIG. 12. Approach to palatal tissues through interproximal papilla.

is needed in association with labial infiltration for incisor teeth, (Fig. 12) passing between the central incisors from the labial into the naso-palatine papilla.

TECHNIQUE OF INJECTIONS FOR MANDIBULAR PRIMARY TEETH

The usual procedure when anesthetizing the teeth in the mandibular arch is to block the inferior alveolar nerve by injecting at the inferior dental foramen. The position for the patient and the operator have been previously described and are of the utmost importance.

A 1⅝ inch, 26 gauge needle, attached with a long hub to the carpule syringe, is used for these injections. The longer needle is used, not because of the necessity for deeper penetration, but rather for better access and vision.

Reminding the patient to look at the operator and informing him, "You are supposed to feel this, etc." as earlier described, are of great value in patient management at this point.

For the lower right teeth, palpate for the deepest concavity of the anterior surface of the ramus of the mandible, with the pad of the first finger of the left hand. Start from the internal surface and drag the finger laterally, to carry the folds of tissue toward the cheek. A paste type of topical, in preference to the liquid, is applied to just this area. Allow one minute, and then with the barrel of the syringe over the opposite cuspid and with the bevel of the needle toward the internal surface of the ramus, the needle bisecting the nail, the insertion is made into taut tissue, being careful to avoid hitting bone.

The needle is slowly advanced through tissue, still avoiding bone, and resistance will be felt for about ¼ of an inch. Then the resistance will suddenly disappear as you fall into the pterygomandibular triangle.[3] The inferior alveolar nerve passes through this space, and anesthetic solution deposited here will effectively produce block anesthesia.

At no time is it necessary to touch the bone or periosteum, and doing so will only produce pain. Deposit one cc. of solution, slowly moving the needle slightly back and forth, expressing the solution on the withdrawing motion, then bring the needle back so that only the tip lies beneath the mucosa. By swinging laterally to parallel the external surface of the ramus, there being adequate loose tissue to allow this, deposit about ½ cc. of solution. The long buccal nerve may thus be anesthetized,[4] completing the injection in one operation.

The approach for the left side is similar, except that the deepest concavity of the anterior surface of the ramus is palpated with the thumb, the hand being inverted.

The two most common errors that may cause failure are too deep a penetration of the needle or too low an insertion.

Injection Technique for Lower Anterior Teeth

This injection is basically the same as the method for upper anterior teeth. The selection of the site depends upon the number of teeth involved; if one, directly under that tooth; if two, midway between them; if more, two separate injections, because of the nerve supply from the right and left inferior alveolar nerves.

Pulling the lip out so that the unattached tissue is taut and at right angles to the alveolar process, apply a topical anesthetic, wait, and quickly flick the tip of a 26 gauge, one inch needle through the tissue. Slowly express a few drops of solution and withdraw. After one minute, approach Sweet's line, which marks the junction of the attached and unattached tissue, at right angles with the bevel of the needle upward and go through the tissue to bone. Then swing the barrel of the syringe so that the needle now parallels the alveolar process, advancing to a level of the apices of the teeth, slowly injecting as you go. Deposit about one cc. of solution, trying to avoid ballooning of tissue.

The injection of the lingual tissue, when necessary, is approached through the interseptal tip, as described for upper incisor teeth.

Injection Technique for Maxillary First Permanent Molars

The use of anesthesia for operative procedures in these teeth has been previously stressed and fortunately, it is one of the easiest to anesthetize. Avoid injecting directly over the tooth, as the tissue is extremely thin, and the malar process interferes with an approach in this area.

Adequate anesthesia can be established by a single injection on the posterior surface of the maxilla. The mandible should be in a relaxed, slightly open position, as its being wide open definitely causes interference. The head is inclined so that the occlusal surfaces of the teeth are at a 45 degree angle to the floor. Pull the cheek laterally so an open pocket is formed by the highest fold of the vestibule above the tuberosity. Apply a topical anesthetic, wait, and with a 1⅝ inch, 26 gauge needle attached to the syringe with a long hub, insert with the bevel directed toward the maxilla. Very slowly advance backward and inward, with the barrel of the syringe paralleling the floor, the 45 degree angle of the head causing an upward, backward, and inward direction of the needle.

Avoid touching the bone, because this area being very vascular, the possibility of pinning a blood vessel against the bone is thus avoided. Moving the needle slowly will usually allow any vessel contacted to slip out of the way.

Resistance will be felt for about ½ inch and will suddenly disappear. At this point, before depositing the solution, give the plunger a slight thrust and let it spring back. There is enough resiliency to the rubber plunger that an aspirating action will occur and should your needle be in a vessel, blood will appear within the carpule. If so, a partial withdrawal and re-insertion would be advisable. About 1½ cc. of solution is deposited here, the maxilla being so porous that within ten minutes any operative procedures can be carried out without concern for a second injection over the mesio-buccal root. A palatal injection is again necessary only when the tooth is to be removed.

The mandibular first permanent molars are anesthetized with an inferior alveolar nerve block as previously described.

Conclusions

1. A planned procedure is essential to success in operative dentistry for children.

2. The proper use of psychology to influence the patient to cooperate in an area of understanding, at his age level, will create a feeling of friendship rather than hostility.

3. The effective use of local anesthesia for operative procedures, with the proper approach, is a fundamental part of dentistry without pain.

4. Anesthesia is an aid to the operator as well as a comfort to the child.

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2832 Summit St.
Oakland 9, California

HERE
THERE
REMEMBER NOW, MRS. McAFEE, ABSOLUTELY NO SWEETS!
VERY WELL, DOCTOR. YOU CAN COUNT ON IT!
DR. BECK DENTIST
BUT LATER
GEE, MOM! FOR ME?
I'M SURE JUST ONE SUCKER A DAY WONT HURT YOU, BOBBIE!
Phillips

India ink copies of the above cartoon, suitable for framing, may be had for $1.00, sent to Jack Phillips, 19389 Hoover, Detroit 5, Mich. Please indicate if you wish your own name to appear on the door in the picture.

Unit News

Unit editors or reporters should send their material for this column to Mel Noonan, 141 S. Bates, Birmingham, Mich. Items for inclusion in the Second Quarter Journal should be in by March 25, 1954.

Northern California

Reporter Ed Mack sent the proud news of John Tocchini becoming dean of the College of Physicians and Surgeons. As reported earlier John was slated for military service but has been reclassified and declared essential. He certainly will be a busy fellow not only with the deanship but he is to become the next president of the Northern California Unit. All A.S.D.C.'ers send their congratulations to Dean Tocchini.

On July 12–15, the third annual California Pedodontic Conference was held at the beautiful Hotel del Coronado in San Diego, with over 50 registrations for the meeting.

Don Chatterton and his committee produced an exceptionally fine program, headed up by Harry Sicher, M.D., ScD. of Northwestern University who was the featured speaker. He is co-author of "Bone and Bones," and information received claims that the subject of bones, when discussed by Dr. Sicher, is not only informative but inspiring!!!

Other speakers on the program were Calvin Foss, J. C. A. Harding, Mode Perry and Francis Summers.

Arkansas

After two long years in the Army Dental Corps J. R. Luten, Jr. has reopened his office in Little Rock for the practice of Pedodontics.

Joe N. Dillard, the first President of Arkansas Unit A.S.D.C. will finish 18 months of Graduate work in Orthodontics at University of Tennessee this fall. The Arkansas Unit is proud of Joe for taking "the big step."

Officers for year 1953 are as follows:

President—R. L. Smith, Jr., Little Rock
Vice Pres.—C. W. Nickols, Newport
Sect. Treas.—Haile P. Bowers, Jonesboro
Delegate A.S.D.C.—Lloyd C. Flint, Camden
Alt. Delegate—J. R. Luten, Jr., Little Rock

The main activities are: continuously promoting table clinics and clinicians on Dentistry for Children at the State Meeting in the Spring and the State seminar in the fall. In April, 1953, these table clinics were given at the 65th annual meeting of Arkansas State Dental Association, by A.S.D.C. members.

Drs. Alstadt and Smith—"Habit Breaking Appliances"
Dr. Don D. Downs—"Ethyl Chloride—General Anesthetic for Children"
Dr. Maurice Friedman—"Endodontics—In Defense of the Pulpless Tooth"
Dr. Wm. W. Klusmeier—"Extractions in Orthodontics Are Frequently Necessary"
Dr. T. J. Ford—"Ethyl Chloride in Extractions for Children"
Dr. Joe N. Dillard—"Orthodontics: A Space Maker"

Michigan

M.S.D.C. started its season with a splendid program on the subject which is gaining in interest in this part of the country—cleft palates. Program chair-

man Ross Scharfenberg with the aid of Carmen Nola arranged the following panel:

James Hayward—Oral Surgeon
Joseph Hartsook—Pedodontist
Robert Moyers—Orthodontist
Paul Gibbons—Prosthodontist
Harlan Bloomer—Speech Correctionist

Ken Easlick was the moderator and did his usual fine job. The audience was sorry that time did not permit more discussion.

Florida

From that capable and energetic gal, Ellen Crockett, comes the following:

The state of Florida is very proud to make its debut in the Journal and to announce that it has formed a state Unit of the American Society of Dentistry for Children. Under the very capable and enthusiastic guidance of Dr. Hugh Keenan a group of 9 Miami dentists met on April 17, 1953 and did the preliminary planning for the Unit which was to be organized at the annual meeting of the Florida State Dental Society.

On April 20th, at the state meeting in St. Petersburg, Florida, the Unit was organized and the charter signed by 31 members of the American Society of Dentistry for Children. Election of officers was held with the following results:

President—Robert Vason, Mount Dora
President-elect—Charles Oxar, Miami
Vice - President—L. J. Marchand, Gainesville
Secretary-Treasurer—Ellen B. Crockett, Miami Beach
Board of Governors—Rubin P. Groom, Jacksonville, W. B. Bunch, Jacksonville, and C. F. Damerow, Vero Beach

With the formation of our own state Unit we hope and expect that our membership of 50 will grow rapidly and bring increased interest in and appreciation of the needs of dentistry for children in Florida. The Unit has already initiated its first project. Arrangements were made for Dr. William Demeritt of the University of North Carolina to give a two day course in dentistry for children in Miami on August 8th and 9th. Twenty-three dentists took the course.

We dentists of Florida wish at this time to remind all A.S.D.C. members that the A.D.A. convention will be held in Miami in October of 1954. Dr. Keenan has already been hard at work in conjunction with our local officers making plans for the A.S.D.C. convention which will precede it. Fine facilities on Miami beach have been arranged for and we know that you will have a mighty good time as well as attending a fine convention. It will give us newcomers a wonderful opportunity to meet the people we've been reading about in the Journal and to show our southern hospitality. Be sure to come!

New Jersey

The Bulletin of the Jersey Unit has emerged in its new format—further credit to Lou Kelsten, its Editor. From its pages we note that their December meeting was held in conjunction with our Pennsylvania and New York Units at Hotel Statler, New York City. It was a highly successful meeting as one would expect with a program such as the following:

Morning Program: Dr. S. N. Rosenstein, President-elect of the New York Unit, presided over an Executive Council Meeting which was attended by members of the participating Units. Problems of

mutual concern were discussed and the exchange of views was very helpful to all.

Afternoon Program: Table Clinics, 1 P.M.

1. Dentistry for the Cerebral Palsied Child. Edward U. Friedman, D.D.S., Brooklyn, N. Y.
2. Preventive and Palliative Orthodontics in Dentistry for Children. Herbert L. Hayward, D.D.S., Ph.D., Bellerose, N. Y.
3. Vital Pulpotomy. John K. Heindel, D.D.S., East Orange, N. J.
4. Gold Restorations for Children's Teeth. Abraham Kobren, D.D.S., White Plains, N. Y.
5. Conservation of Extensively Decayed Primary Teeth. Albert W. Theurer, D.D.S., Roselle, N. J.

Scientific Session, 3 P.M.

Presiding: Dr. Ralph L. Kendall, *President*, New York Unit

Subject: Oral Tensions in the Child: The Dentist Deals With It

Essayist: Grace Abbatt, M.D., New York, N. Y., Consultant, Child Study Association, New York; Member of Psychiatric Staff, Child Study, Yale University and Jewish Board of Guardians; Member, American Psychiatric Association.

Subject: Oral Manifestations in Children With Systemic Disease

Essayist: Rose Lee Nemir, M.D., New York, N. Y., Professor of Pediatrics, New York University Postgraduate Medical School: Member Academy of Pediatrics.

The Mid-Winter Meeting of the Jersey Unit was held Wednesday January 13, 1954 at Trenton.

The Pedodontics Department of Temple University put on a series of Table Clinics in the afternoon, followed by dinner. Dr. Marshall-Day, Dean of Tufts Dental School was speaker of the evening, on the topic "World Trends in Public Health Aspects of Dentistry for Children", a highly controversial subject these days!

It seems that this Unit is headed for another outstanding year under President John K. Heindel.

New York

As usual, our largest Unit is also our busiest. Ralph Kendall has the men—and women—prepared to enjoy a most successful year, as witnessed by their December program outlined in the Jersey News above. Joe Kauffmann is doing his usual fine job with the N. Y. Bulletin, which would be a credit to any organization.

Pennsylvania

Edith Wisniewski of the Western Pennsylvania Unit advises us that an unusually large turnout was on hand for their first meeting of the year, which was held October 14, 1953 at the School of Dentistry in Pittsburg and featured as the speaker Edward J. Laskowski, D.D.S., Ph.D., Associate Professor of Orthodontics, on the subject "Space Maintainers—their indications, types and construction."

On Wednesday November 18, this Unit held its Annual Meeting for election of officers. Speaker of the evening was Dr. Doris Stewart on the subject "Periodontics for Children", a topic which is receiving constantly increasing attention.

Ohio

The Cleveland Chapter of the Ohio Unit was happy to hold its first meeting of the 1953–54 season on Saturday, September 26 in conjunction with the

President's Luncheon at the Annual Meeting of the A.S.D.C. President George Teuscher introduced all the national officers, and present also were Honorary Chairman E. L. Pettibone, an early Past President of A.S.D.C., and our youngest guest, Al Seyler's charming little daughter, Melinda, with Mrs. Seyler.

The speaker was Mrs. Anna G. Thorpe, Superintendent and the beloved "Mom" of The Cleveland Christian Home for Children, who discussed "How to Help a Child to be a Good Dental Patient."

Present officers of the Cleveland Chapter are:

C. F. Tuma, President
Norman C. Colebrook, Vice-President
Finn L'Orange, Treasurer
Herbert L. Adelstein, Secretary

Future meetings will be held January 18, March 15 and April 26, 1954 at the University Club; Dinner at 6:30 P.M. Our latch string is always out to visitors.

Southern California

The Southern Calif. Unit has just finished the most successful year in its history. Under the gavel of George Higue and with Stewart Anderson doing superman feats in supplying us with speakers, our programs were top notch throughout the year. Have a look:

September 24—Gordon M. Fitzgerald, D.D.S., *Dental Roentgenograms and Radiation Effects on Children*

November 2—Dr. Leonard S. Fosdick, *Etiology and Control of Dental Caries*

November 26—Bernard Z. Rabinowitch, D.D.S., *Pulp Therapy In the Teeth of Children Including Permanent Incisors and Replantation of Teeth Lost in Accidents*

January 10—Louis I. Grossman, D.D.S., *Endodontic Treatment of Young Permanent Teeth*

February 22—Clifford Whitman, *Habits Related to Dental Deformities and Methods of Control*

March 24—Chet Huntly,—a change of pace—Mr. Huntly discussed World affairs & politics—he charmed the entire audience

May 5—Edward A. Cheney, M.S., D.D.S., *The Prevention of Malocclusion*

June 23—Dr. Maury Massler, *Research by Practitioners*

Ed's table clinic on simple appliances at the Arrowhead Springs Conference.

Undoubtedly the highlight of the entire year was our "First Annual Postgraduate Pedodontic Conference" which was held at Arrowhead Springs Hotel in the San Bernardino Mountains. There we worked *and* played very hard! Men attended from California, Washington, Utah, Nevada, and Arizona. Only those who attended can know how wonderful it was.

Ed Cheney imparting words of wisdom to our 1st Annual Postgraduate Pedodontic Conference at Arrowhead Springs.

Dr. Elsie Schildwachter of Huntington Park masterminded this event which featured three days (May 1, 2, & 3) of Ed. Cheney as main speaker and Hugo Kulstad and Francis Pottenger, M.D. as auxiliary speakers. *And* a couple hundred sweet young ladies whose convention just *happened* to coincide with ours at Arrowhead Springs!

Ed's birthday cake-party (that's 200 pretty girls in the adjoining room singing "Silver Threads Among the Gold"!) President George Higue is supporting the old fellow, and Elsie Schildwachter, the maitre de, Stew Anderson, K. I. Lewis, and Ken McKinnon lending vocal support!

Abstracts of Papers Presented before the

American Academy of Pedodontics Research Section

June 25–26, 1953

1. *Comparison of the Mesio-Distal Widths of the Lower Primary Central and Lateral Incisors.* C. W. HAGAN, Pittsburgh, Pennsylvania. The purpose of this investigation was to compare the mesio-distal width of the lower primary central and lateral incisors. All teeth were measured in the mouth using vernier calipers. In every case the lateral incisors were larger than the centrals. Former tables showing the mesio-distal width of these teeth were found to be erroneous.
2. *The Use of Enzymes in the Treatment of Infected Teeth of Children.* H. K. ADDELSTON, J. GARY, D. KATZ AND S. M. KRONFELD, New York, New York. A study was made of the value of strepto-kinase and strepto-dornase as adjuncts to pulp treatment of infected teeth in children. Teeth usually referred for extraction were treated following a careful technic. Although clinical results were promising, careful analysis of the cases studied does not lead to a favorable prognosis.
3. *Some Factors in the Consideration of Space Maintenance.* S. M. KRONFELD, S. HEMLEY AND H. K. ADDELSTON, New York, New York. A survey was made in 400 children over a 14 year period of some factors in the consideration of space maintenance. Time and order of exfoliation and eruption were recorded and some implications concerning development of abnormal occlusion were noted. Space maintenance is important to the normal development of occlusion.
4. *Prevalence of Dental Caries Among a Group of Children with Rheumatic Fever.* R. E. MARTIN, St. Louis, Missouri. The incidence of caries was less in a group of children with rheumatic fever than in a comparable number of children from an orphanage. Oral hygiene was better in the rheumatic fever patient group. Gingivitis was found to be no more prevalent. The largest number of children with gingivitis was in the 15-year group. In both groups a few patients never brushed their teeth, a number used the tooth brush occasionally, while a like number reported daily use of the tooth brush. No subacute bacterial endocarditis followed extraction for children in the rheumatic fever group. These patients were hospitalized for four days and given 400,000 units of penicillin the day preceding the extraction, the day of the operation and for two days following the operation.
5. *Dietary Control of Lactobacillus Acidophilus by Periodic Restriction of Carbohydrates using Snyder Tests as a Diagnostic Aid: A Five Year Progress Report.* B. A. SMITH, Oakland, California. Two hundred and seventy patients were selected on the basis of high caries experience. Two hundred twenty-one of these children had positive Snyder Tests and were placed

on Jay's caries control diet. Ninety-seven per cent of these children successfully completed the first phase of the diet and were advanced to the second phase. Eighty-one per cent of these children were able to maintain negative counts after termination of dietary restrictions.

6. *Pulp Capping in Primary Teeth: A Five Year Study.* H. C. WITTICH, Minneapolis, Minnesota. A modified calcium hydroxide pulp capping material has been used at the University of Minnesota during the past 5 years in primary teeth with vital pulp exposures. The results of this study show that pulps of primary teeth can be successfully capped under certain conditions. The findings are based entirely upon clinical and radiographic findings. The powder used contains calcium hydroxide, zinc oxide and triodomethane. The liquid is made up of eugenol with phenol.
7. *Pulpotomies in Primary Teeth: A Five Year Study.* C. J. MEHLUM, Phoenix, Arizona. Seven hundred eighteen primary molar teeth having exposed pulps were treated with the technique advocated by Dr. Charles A. Sweet. In all cases the exposures were those in which capping was contraindicated because of the size of the exposure or because of the presence of pulpitis. No tooth treated by this technique showed clinical or roentgenological evidence of infection. Six teeth were considered failures in that early root resorption occurred and space maintainers were necessary.
8. *Internal Resorption Following Pulpotomy.* B. Z. RABINOWITCH, Los Angeles, California. Internal resorptions following pulpotomy were noted and investigated roentgenographically and by histologic sections. Different types of internal resorptions were classified. Prevention of certain types of resorptions and the treatment of others were discussed.
9. *Development of Permanent Teeth.* C. M. NOLLA, Ann Arbor, Michigan. Serial annual radiographs of 25 boys (total radiographs, 1,656) and of 25 girls (total radiographs, 1,746) obtained from the files of the University of Michigan Elementary School were studied in order to develop a more accurate technic for the appraisal of the development of the permanent dentition as revealed by radiographs. The development of each tooth was graded on a scale from 0 to 10 (0, absence of crypt; 1, presence of crypt; 2, initial calcification; 3, one third of the crown completed; 4, two thirds of the crown completed; 5, almost completed crown; 6, completed crown; 7, one third of the root completed; 8, two thirds of the root completed; 9, almost three thirds of the root completed, open apex; 10, apical end of root completed). Each set of observational appraisals was summarized individually both graphically and numerically, thus providing material showing the dental development of each person and numerical values for the tabulation of dental age scales. Few developmental differences between right and left side were observed. No significant sex differences in the rate of development were observed. However, the girls started dental development at an earlier age. The general type of growth displayed by each tooth was the same. The equation which expresses the general type of rate change is an algebraic biquadratic. Differences between the sexes in the general sequence of development was not apparent with few exceptions. Individual differences

of clinical significance are revealed by superimposing a graph of individual tooth growth on normative overlays. The statistical summary of individual tooth development permits the preparation of detailed growth age scales which facilitate clinical application of their results.

10. *Dental Extractions in Hemophiliac Patients.* R. WERTHER, Philadelphia, Pennsylvania. Hemophilia is a condition due to a defect in blood coagulation caused by a transmission of a recessive sex linked characteristic. A reasonably normal coagulation time must be attained prior to dental extraction. The patient should be hospitalized during this period and at least four days after the operation. The low coagulation time should be maintained throughout this period. Exfoliation of teeth using rubber ligatures was prolonged and tedious.
11. *Root Resorption in Permanent Teeth.* M. MASSLER AND J. G. PERREAULT, Chicago, Illinois. A definite tendency toward idiopathic root resorption was found to be present in virtually all permanent teeth. Idiopathic root resorption was found to be present in 80% of the teeth examined radiographically. In 71% the resorption was mild, in 9% it was moderate and in 0.3%, the resorption was severe, without apparent cause. The resorption potential varied in different persons and in different teeth of the same person. The resorption potential was higher in young adult females than in males.
12. *A Study of Stress Patterns in Class II Cavity Restoration as a Result of Different Cavity Designs.* R. C. HASKINS, D. C. HAACK AND R. L. IRELAND, Lincoln, Nebraska. This investigation was undertaken to determine what effect different Class II cavity designs would have on the stress lines which are formed in the restoration. These stress lines were observed using a photoelastic model of the actual tooth section. The method of model preparation was outlined together with the general procedure in obtaining the photoelastic patterns. The stress patterns formed by different designs of cavity preparations were presented by means of slides.
13. *A Photoelastic Method for the Analysis of Stresses Developed in Dental Structures.* J. T. HARTSOOK AND R. M. KING, Ann Arbor, Michigan. The primary objective of the study was to develop a means for determining quantitatively the stresses produced in dental structures employing photoelastic analysis. Four different designs of cavity preparations were compared objectively on the basis of those stresses which produce failure of silver amalgam restorations. The study indicates that the distribution of the stresses produced changes significantly with modifications in the design of the pulpal walls of the different cavity preparations.

MAURY MASSLER, *Chairman*

Operative Dentistry under General Anesthesia for Difficult Patients

MANUEL M. ALBUM, D.D.S.*

ONE OF the most difficult problems in dentistry today is the care and treatment of recalcitrant and handicapped children. Too often youngsters who are obstreperous and hard to handle in a dental office go unattended for long periods of time and eventually need mass extractions. Cerebral palsy, mentally retarded, and other handicapped patients sometimes can not be treated adequately by the dentist, and consequently are neglected from a dental standpoint.[1, 2, 3, 4]

With the advent of general anesthesia, under hospital conditions, it now becomes possible for the dentist to rehabilitate the mouth of such a patient at one sitting. To many parents this is a blessing since it automatically decreases the number of office visits and in addition, following the operative work, the patient is easy to re-educate from the standpoint of being receptive to further dental care under office conditions.

It must be understood that an anesthetic is only as safe as the skill and knowledge possessed by the anesthesiologist. If he does not understand completely the properties of the anesthetic agent being used, and does not have a thorough understanding of the physical make-up of the patient, it becomes quite easy to inflict permanent injury to the patient as well as embarrassment to the surgeon and the operator.

* Chief, dental section on cerebral palsy, Children's Hospital, Philadelphia; President, Academy for Oral Rehabilitation of Handicapped Persons.

Another important requisite for the successful use of any anesthetic procedure is the cooperation of the child. This holds true especially in cerebral palsy and mentally retarded patients. Seeing that the child is comfortable and not frightened will contribute to the efficiency of the anesthetic. A cooperative child requires less anesthetic and the administration of the anesthetic follows a more uniform course.

It must be remembered that anesthetics no matter how mild, can produce liver damage, acidosis, and neurological damage and complications if they are used incorrectly. Lack of oxygen will result in severe damage to the brain.

Before any anesthetic is administered, the patient when admitted to the hospital should be given a thorough physical examination. In this fashion it is possible to detect occasional patients who have cardiac murmurs which does not necessarily mean that a general anesthetic would be contraindicated, but the knowledge of the murmur becomes extremely helpful to the anesthesiologist in his administration of the anesthetic. Chest x-rays are now taken as a routine procedure in order to detect any hidden or unsuspected chest lesion and also to determine cardiac and diaphragmatic relationship, important in rheumatic heart patients.

Blood chemistry studies, including a leucocytic count, hemoglobin percentage, and clotting and bleeding time tests are performed. If the hemoglobin falls below

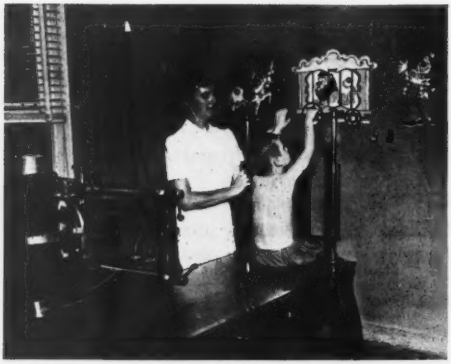

FIG. 1. A complete physical examination, blood examination, urine analysis, plus a chest x-ray should be done on each patient prior to anesthesia.

10.0 gm per 100 cc. of blood, the patient is suspected of being anemic and anesthesia is contraindicated until the patient's hemoglobin can be built up with liver and iron or through the use of blood transfusions. The latter is done only in the case of extreme emergency.

A high leucocytic count is suggestive of infection somewhere in the body and should be investigated prior to any anesthesia. A urine analysis should also be done on the patient to determine acidity and the presence of albumin or casts in the urine.

Patients who show colds, asthma, or influenza should be carefully considered prior to the use of any anesthetic. If the temperature of the patient is elevated above 100°C, it is advisable to delay any operative work until the temperature can be investigated. During hot weather, body temperature of children may have a tendency to be elevated. Consequently these youngsters should be given a sufficient quantity of clear liquid during the allowed period prior to the anesthesia. During the operative procedures under anesthetics, body temperature may rise and the dental work might have to be hastened or stopped completely. It may be necessary to encase the body in iced towels or gauze to reduce this temperature in order to complete the dentistry. When temperature is due to infection resulting from the teeth, the patient should be started on antibiotic treatment and the anesthetic procedures continued.

Proper premedication of the patient will reduce the amount of the anesthetic agents necessary and will allow the anesthesia to proceed on a smoother plane. Children are premedicated 1 hour prior to the operative work with morphine sulphate or demerol, scopolamine, and nembutal. The latter is given orally. If this is not possible as in the case of some handicapped patients, then the nembutal is administered rectally. I prefer to use demerol to morphine sulphate because there is little vomiting with its use and the child does not sleep as long after the anesthesia.

If it is necessary to take x-rays of the mouth on a difficult or obstreperous patient, he should be heavily sedated with three grains or more of one of the barbiturates, depending on the age of the child, given in two doses at a half hour

interval, to produce effective results. Younger children require more premedication than adults for proper sedation.

Previously, it was not deemed advisable to keep children under general anesthesia for long periods of time.[5] Within the past few years, agents have been employed which make it possible to maintain the patient under general anesthesia for two or three hours or longer without any ill effects. All types of dental procedures can be performed and at the same time, the patient is completely relaxed.

The cases treated two years ago at Children's Hospital in Philadelphia, consisted of cyclo-propane and ether and maintained with nitrous-oxide and oxygen by nasotracheal tube. This was supplemented with pentothal sodium and curare intravenously. Although this was quite satisfactory, the patient did not awake fully until several hours had passed. In addition, some of the younger patients were difficult to carry on the intravenous drip. Trichlorethylene was found to be better suited for our particular needs.

FIG. 3. Patient is intubated nasally and is being carried on nitrous oxide-oxygen and trichlorethylene. Note the Intravenous drip solution of succinyl choline and 5 per cent glucose for muscle relaxation. The carious areas in the upper teeth are quite evident.

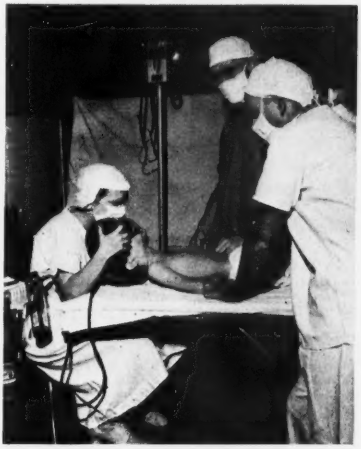

FIG. 2. Patient is given nitrous oxide-oxygen and trichlorethylene with a face mask and bag.

Trichlorethylene or *Trilene* produces adequate analgesia for many operative procedures before there is any loss of consciousness. When *Trilene* is used continuously, it is easy for the patient to become unconscious. This continued use of *Trilene* by itself is not safe as the deeper planes of anesthesia will show tachypnea and marked bradycardia. These conditions appear to be absent during first stage analgesia. When the anesthesia becomes deeper, the respiration rate becomes very rapid and shallow in sharp contrast to the unaffected respiratory rate in analgesic doses. If *Trilene* is used by itself on children

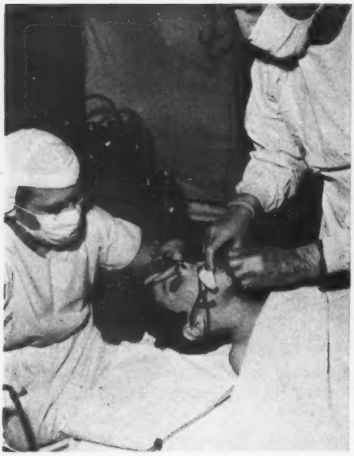

FIG. 4. The throat is packed with gauze prior to the operative work.

FIG. 5. Operative dentistry done without any difficulty on patient. Mouth is quite accessible for all types of dental procedures.

FIG. 6. Upon completion of work, mouth is irrigated with water and aspirated at the same time. This will remove any particles of amalgam that remain in oral cavity.

FIG. 7. Pharyngeal and stomach toilet is done upon completion of dental work. This will remove any debris that might be in stomach and also reduce amount of nausea following anesthesia.

undergoing some form of elective surgery, the bradycardia is very marked and extra-systoles may be observed. Cardiac arrhythmias may show up during deep anesthesia.

After careful examination of our anesthetic agents, it was decided to combine the *Trilene* with nitrous-oxide, oxygen and succinyl choline. This combination of anesthetic and muscle relaxing agents provided flawless anesthesia with satisfactory operative results and early discharge of the patient.

Following the proper pre-operative sedation, anesthesia is started with a bag and mask utilizing the semi-closed technique. The ratio of nitrous oxide and oxygen is 3:1. *Trilene* is added to the mixture using a standard ether vaporizer with 1.5–2 ounces of *Trilene*. Succinyl choline in 5 per cent glucose intravenous drip (1 mgm.–1 cc.) is administered to facilitate nasal intubation. This is maintained throughout the anesthesia.

Upon the completion of the nasotracheal intubation, the patient is carried on nitrous oxide-oxygen in proportions of 2 to 1 liters and *Trilene* vapor, using a non-rebreathing valve. The analgesic effect of *Trilene* makes it unnecessary to produce deep anesthesia and the patient responds quickly, once the anesthesia is completed.

All types of dental work involving long periods of time can be carried out under this combination of anesthetic agents without any trouble to the operator.

Aspiration of the mouth, pharynx, and of the endotracheal airway should be done upon completion of the required dental work, and prior to the removal of the nasotracheal tube.

Conclusions

Utilizing general anesthesia makes it possible to do thorough and complete dentistry on all types of difficult, obstreperous, recalcitrant, or handicapped patients without any fear on the part of the dentist or patient.

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1930 Chestnut Street
Philadelphia 3, Pa.

Around the Country

Secretary

As *Laren Teutsch* said several copies ago, *"No News is Good News* but it doesn't get your name or anyone else's, in this column." Send your items to *Dr. John E. Gilster*, 4559 Scott, St. Louis 10, Missouri.

Doubtless due to the turnover of personnel in editing this column, very little news has come my way this quarter —it didn't help much when I kept my nose to the grindstone in St. Louis instead of my ear to the ground in Cleveland September 25–27!!

* * *

The first annual meeting of the Academy For Oral Rehabilitation of Handicapped Persons was held on September 28th, 1953, at the Carter Hotel, in Cleveland, Ohio.

The following officers were elected:

President—Dr. Manuel M. Album, Philadelphia, Pa.

Secretary—Dr. Hugh Kopel, Detroit, Michigan

President-Elect—Dr. Michael Cohen, Boston, Mass.

The purposes of the Academy are to promote and maintain high standards of dental care and treatment of the physically and mentally handicapped persons. To encourage and assist dental practitioners to prepare and qualify themselves to treat physically and mentally handicapped persons. To promote research in all branches of dental care and treatment of the physically and mentally handicapped persons and to publish the results thereof.

Information as to details concerning the Academy may be obtained by writing to: Dr. Hugh Kopel, 19933 Livernois Ave., Detroit, Michigan.

* * *

Dean emeritus *O. W. Brandhorst* of Washington University, St. Louis, retired as president of the A.D.A. at its meeting in Cleveland in September. He has moved the office of the secretary of the American College of Dentists to 4221 Lindell and is continuing part-time practice of orthodontics at 4952 Maryland.

* * *

John Tocchini, South San Francisco, has been named new Dean of the College of Physicians and Surgeons succeeding *E. Frank Inskipp*, who died July 15. *John* received his dental degree in 1937 and has been on the College staff since 1939 and has been clinical professor of operative dentistry since 1945.

* * *

David Brock, St. Louis, is the current president of the Missouri State Dental Society.

* * *

Kenneth Lawrence, of Kansas City, gave dentistry for children a boost on October 8 when he spoke before the Central District Dental Society at Marshall, Mo.

* * *

Henry Wilbur, of Louisville, was on the program of the Missouri-Kansas Bi-State Dental Meeting in Kansas City May 10–13. His paper: *Management of Premature Loss of Children's Teeth.*

* * *

According to the *Alpha Omegan, Louis E. Greenwald* was elected by the New Jersey Society for Children to receive the

professional award for outstanding achievement and service in the field of Dentistry for Children.

* * *

Norman H. Olsen, formerly of Omaha Nebraska, took over as Professor and Director of Children's Dentistry at the University of Kansas City on August 17. He, with *Kennedy*, *Castaldi* and *Dahl* did a fine job with a good group table clinic in St. Louis last year. Good luck, Norman!

* * *

A husband and wife team is no longer unusual in dentistry—but here's another sort of a team: *Andrew Cahoy* is president of the Omaha District Dental Society; and his wife is president of the Society Auxiliary.

* * *

And a honey of an article appears in this *Chronicle*, "The Patient Speaks" headed by a picture of *Stanley Teutsch, Laren's* handsome son. The article was written by *Stanley* (age 3), I guess—though I believe I detect some of "Daddy's" style!

* * *

W. W. Demeritt, of the University of North Carolina, gave a refresher course to the Florida State Society of Dentistry for Children in Miami, August 8–9.

* * *

Tom Neal, of Huntington, W. Virginia, with the help of *Richard McCrary*, designed a display window in the Huntington Public Library. The attention-getting dental display contained visual aids, general books on dentistry and foreign dental publications. It is said to have attracted much comment and interest.

* * *

Our English correspondent and reporter, *Scott Page*, of Tunbridge Wells has been under the weather—but we're glad to report he's back in the saddle again! *Scott* reports *George Teuscher* was well received at the A.D.S.E. meeting in Bergen last year, and that he has been having correspondence with *Sam Harris* about the formation of the Great Britain Society of Dentistry for Children.

* * *

Post-graduate Courses

Hugo Kulstad, a past-president of A.S.D.C., Bakersfield, California, presented a post-graduate course in dentistry for children, October 22 and 23, at the University of Oregon Dental School.

* * *

Two post-graduate courses in dentistry for children are announced by the College of Dentistry, State University of Iowa—one given October 12–17, 1953, and one March 1–6, 1954.

* * *

A week's post-graduate course in dentistry for children is offered by Washington University, St. Louis, March 1 to 6, 1954.

New Offices—Locations

C. G. Muller is building a new office in Omaha at 35th and Dodge Streets.

* * *

John Torres, of Tampa, Florida, has moved into new office quarters at his old address, the First National Bank Building, with new equipment and the "works."

* * *

Red Oak, Iowa, is to have a new pedodontist. *Dr. Mary Thompson* is practicing with her father and limiting to dentistry for children.

* * *

Evelyn Strange has returned from St. Louis to her beloved hometown, Port-

land, Oregon. She opened her office in the Selling Building—limits to dentistry for children. Husband Frank is teaching at the University of Portland.

* * *

Robert Glenn, Burlington, Iowa, since his recent return from service has purchased a modern residential type office building adjoining Burlington Hospital and will practice dentistry for children there.

* * *

Margaret Toalson has moved into beautiful new offices in Clayton—St. Louis' most up-and-coming suburb—from downtown St. Louis. She will share a reception room with her husband, pediatrician *Ed Rohlfing*.

* * *

Roger Parrott, a recent graduate of Washington University, is teaching at that school on *Dr. Ruth Martin's* staff. He is practicing dentistry for children on a part-time basis at 6669 Fyler Avenue, St. Louis.

They're in the Army—or "Who Wants to Get Rich Anyway?"

R. J. Engel, of Omaha, Nebraska, is presently at Camp Chaffee, Fort Smith, Ark.

Herbert Weisal, of Lincoln, Nebraska, is now in the Army.

Last heard of *Gordon Ehlers* of Howells, Nebraska, he was at Lowry Field in Denver.

Charles Richter, Rushville, Nebraska, recently entered service (See *Diaper Derby*—this man's cooking on gas).

H. J. Wegener, of Lincoln, Nebraska, is now with the V. A.

(Wait a minute—are there any dentists left in Nebraska?!?)

Joe Cortese, of Des Moines, Iowa, has gone into the service recently.

That rascal, *Laren Teutsch*, wished this job onto me—and now writes that he *still* hasn't gone in—I'll get you in this column, somehow!!!

Diaper Derby

A daughter to the *N. Fred Raeder's* of Clarksburg, West Virginia.

New arrivals are reported for the *F. A. Pierson's, Jr.* and the *Robert F. Kierstead's* of Lincoln, Nebraska.

Also, a bundle from heaven for the *Charles S. Richter's* of Rushville, Nebraska.

A daughter recently to the *Roy Green's* of Wheeling, West Virginia.

A daughter to the *Leo Ambrose's* of Omaha, Nebraska.

A son, *Peter Alan*, June 29, 1953, to the *Alvin Antelyes* of Bristol, Conn.

A son, *Joseph William*, born October 1953, to the *C. R. Castaldi's* of Indianapolis, Indiana.

* * *

Phil Phair has been appointed secretary of the Council on Dental Health of the A.D.A. *Phil* is a former president of our Washington State Unit, and we wish him continued success.

* * *

Maury Massler, of our Illinois Unit spoke to the members of our Wisconsin Unit at Green Bay on October 19th on the subject "Tooth Development."

* * *

Jack Wisan has moved to Philadelphia, where he is Chief of the Dental Health Section of the Department of Public Health. *Jack* wants you to know that the leaflet *"Pointers for Parents"* is now ready for distribution. This material attractively printed in two colors is to be used by dentists to inform mothers how to prepare a young child (2-3 years of age) for his or her first visit to the

dental office. Write to *Health Publications Institute, Inc., Raleigh, North Carolina* for copies. Please enclose check ($1.50 for 100; $15.00 for 1,000) with order.

* * *

Editor Al reports he has had a card from *Norm Denner* of Cleveland, who is on a tour of the Orient. We congratulate *Norm* on his recent fellowship in the American College of Dentists.

* * *

Asher Sherow and *Dave Torch*, who recently became associated, are limiting their practice to dentistry for children in Chicago. *Asher* is spending some time at the Univ. of Illinois College of Dentistry, with *Maury Massler*.

* * *

Editor Al reports that the members of the Florida Unit, recently organized, are preparing a gala meeting for us A.S.D.C. members in 1954. A future issue of the Journal will carry more detailed information.

* * *

Francis Fleege, who directs the department of pedodontics at Marquette University School of Dentistry, was a participant in Governor Walter Kohler's Conference on Children and Youth, held recently at Madison, Wisconsin. *Francis* also arranged for the course in pedodontics given in Milwaukee in October by *Ralph Ireland*, of Lincoln, Nebraska.

* * *

Harold Klein of our New York Unit has moved to 2 E. 54th St., New York City 22, where he is associated with his brothers *Edward* and *Milton*, both of whom are also members of A.S.D.C.

* * *

Dr. Charles Sweet Jr. and *Dr. Don Laston* are flying far south to give courses to the faculties of both the University of Mexico, in Mexico D. F., and the University of Nuevo Leon, at Monterrey, Mexico.

Their subjects will embrace the present concepts of dentistry for children all the way from case presentation, cavity preparations, space maintainers to control of oral habits.

* * *

Stanley S. Kouffman has opened an office at 1247 Beacon St., Brookline, Mass. and is limiting his practice to children.

* * *

A current and continuing survey of professional vacancies in Brownsville, Texas, indicates a need for an orthodontic specialist, the Brownsville Board of City Development has announced.

There is currently no orthodontist in Brownsville. Local physicians and dentists consulted in the survey offered full cooperation in developing a practice for a qualified specialist, and noted that the general dental field in Brownsville is understaffed as well. The Board will forward detailed information to interested parties and assist in making contacts for locations, etc.

Brownsville, a town of about 50,000, is located on the Rio Grande 25 miles from the Gulf of Mexico and directly opposite Matamoros, Mexico, of equal size; total population (U. S. and Mexico) of the rich 70-mile delta of the Lower Rio Grande is 500,000. The city has air, rail, highway, barge and deep sea transportation; a daily newspaper, radio and television stations, modern hospital and junior college. Living costs are low. The climate is a semi-tropical 73 degree average, with light rainfall.

* * *

From *Harold Klein*, Chairman of Public Relations of the Oral Hygiene Committee of greater New York:

During Children's Dental Health Week, February 1–6, 1954 there will be two Dental Health Expositions. One will be held at the headquarters of the Second District Dental Society at 111 Ft. Greene Place, Brooklyn, the other at the Civil Defense Headquarters Building at 500 Park Avenue.

The theme of the Expositions will be the "History and Development of Modern Dentistry". By means of newly created exhibits, motion pictures, lectures, demonstrations and actual bite-wing x-rays taken of children, we will dramatize how dentistry can be made more comfortable for the patient. At the same time, we will be stressing all methods of prevention of dental caries. The program will emphasize the four major points for improving the dental health of our children: (1) Toothbrushing, (2) Nutrition and Diet, (3) Fluorides and (4) Bite-wing x-rays and regular dental care.

* * *

Past-president Teuscher appeared before the members of the Ohio State Dental Association on November 10th, speaking on "Clinical Problems in Pedodontics" and "Pulp Problems in Pedodontics." We understand the Dean was in his usual good form.

ANNOUNCEMENT

POSTGRADUATE CONFERENCE IN PEDODONTISTS

SPONSORED BY

SOUTHERN CALIFORNIA UNIT—A.S.D.C.

ARROWHEAD SPRINGS HOTEL

TWO NATIONALLY RECOGNIZED PEDODONTISTS

JOHN BRAUER, Dean, School of Dentistry, University of North Carolina
RALPH IRELAND, Head of the Department of Pedodontics, University of Nebraska

The finest possible program in Children's Dentistry will be presented starting 7 P.M. Wednesday, March 3rd, and ending with noon luncheon Saturday, March 6, 1954.

The Conference fee is $85.00 and includes lodging and meals. This fee may be paid in two installments if desired,—$35.00 should be paid by January 1, 1954, and the balance of $50.00 to be paid by February 15, 1954.

Requests for reservations should be mailed to—

Miss Lorraine Duncan
3780 Wilshire Boulevard
Los Angeles 5, California

Mobility and Stainless Steel

JACK CALVERT, D.D.S.

Davenport, Iowa

GREAT as has been the boon of Stainless Steel and the spot welding machines to Dentistry for Children many offices that we have seen have been at a loss for adequate space for these fine adjuncts to a Pedodontic practice. Often welders are placed on a laboratory bench some distance from the Operatory and for any of the spotting or soldering operations the operator must leave the chair and trot back and forth until he has completed his appliance. Also, there is the problem of a place to keep the crowns and manipulating instruments and pliers where they will be in constant order and easily available without cluttering up the operating cabinet.

We have solved all these problems in our office by taking a keynote from the Armies of modern day, and that note is *Mobility*. Figure 1 shows our unit, which is composed of four essential parts, all combined on wheels.

The spot welder and soldering machine is placed on the upper right hand surface of the triple shelved stainless steel utility cart. The crown and parts cabinet consists of thirty-two plastic drawers with removable partitions and label inserts showing at a glance exactly what each drawer contains. All pliers, cutters, gauges, and lengths of wire are contained in the slanting, compartmented shelf on the second level of the mobile unit. The front of the upper shelf space is covered with a piece of ¾ inch plywood with a masonite working surface and soldering electrodes of the welder hang within easy

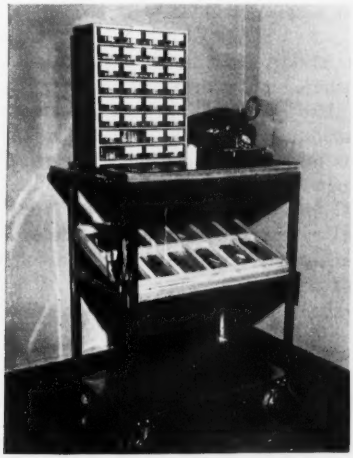

FIG. 1

FIG. 2

reach from the cart handle at the left (Figure 2).

The cost and labor of assembling this unit is moderate. The crown and parts cabinet was picked up from a radio supply store, the mobile steel utility cart from a medical supply house, the welder I'm sure everyone will recognize, and the tray for the pliers etc. was made in my spare time. The top working surface was constructed from scrap plywood.

With office space at a premium in most cities, this small, inexpensive mobile unit might well be a welcome space-saving solution to part of the problems of general practitioners, orthodontists and pedodontists.

Membership Suggestions

Editor's note:

President Keenan has asked us to publish the following reports received at Cleveland, feeling that Unit officers and members may obtain helpful information from them.

A.E.S.

September 10, 1953

Members of the American Society of Dentistry for Children:

This is a report of the five State Units of Rhode Island, Connecticut, Michigan, Massachusetts, and the District of Columbia under my jurisdiction. Each Unit has had a varied and interesting program for the year. Some of the Units have shown an increase in membership while others have demonstrated a solid foundation of participating dentists for the promotion of dentistry for children. There is a definite and profound educational program undertaken in each Unit for the benefit of dentists, parents and communities.

The Rhode Island Unit reports an active roll of 40 members. In February 1953 an election of officers was held. A film on stainless steel crowns was shown. In April a combined meeting with the New Bedford, Fall River and Newport Dental Societies was addressed by Dr. Rosenstein of Columbia University. The following month, a paper was presented by Dr. I. G. Schaffer of R. I. on the dental care of children with cerebral palsy.

A committee has been appointed to review each community's dental program in order to eventually provide a common over-all procedure for each locale in the care of the dental health problems of these children.

The secretary of the Connecticut Unit reports sixty-two active members in the second year of operation. This is about 5% of the total active membership of the Connecticut State Dental Association. Two meetings were held during the past year; (1) devoted to the business of the unit, and (2) a full day clinical conference.

Many speakers have been provided for local social programs in order to carry the message of the importance of child dental health.

The Michigan Unit reports that their meetings were held in Flint, Detroit and Ann Arbor during the year. The first meeting in Flint presented to the citizens of that city the scientific information on the addition of fluorine to the water supply. Two meetings were held in Detroit with Dr. Robert Moyers speaking on "Interceptive Orthodontics" and Dr. George Teuscher speaking on "Operative Dentistry for Children". A panel discussion on the "Reaction of Young Pulps to Operative Procedures" was held at Ann Arbor. The "History and Growth of Dentistry for Children" was discussed by Dr. Walter McBride at a later meeting.

The membership of this Unit ranged around the 200 mark, and plans have been formulated to increase the membership by contacting the graduating seniors of the dental schools of that state. It is hoped that junior memberships can be established for dental students and this Unit is working toward that end.

An award of $25.00 was established and presented for the first time to a graduating senior at both the University of Michigan and the University of Detroit who demonstrated the greatest proficiency in Dentistry for Children. It is hoped that these awards will increase the interest

and proficiency among students and lead them into a more active interest in our field.

A periodic news letter is the current project of the Michigan Unit.

The Massachusetts Unit had many interesting programs for the year, but which were not too well attended. The total membership of the Unit is approximately 75.

Dr. Irving Glickman presented the "Periodontal Problems of Children". Dr. Richard Manly of Tufts College demonstrated and discussed the use of the "Manly Monster" in the determination of caries activity. A non-dental program was presented by Dr. Miriam Van Waters of the Framingham Reformatory for Women on "Rehabilitation Problems". This was a most informative evening of a sociological nature. The opposition was invited to present their arguments for anti-fluoridation at the December meeting. This meeting was extremely well attended by the members of the Unit. We can well be proud of the manner in which our members presented their facts and arguments for fluoridation during the discussion period. This Unit, knowing the arguments used by the anti-fluoridation foes, can now better prepare and defend the cause of fluoridation which it will continue to do. We feel that this situation is quite analogous to the "Book Burning" declaration of President Eisenhower. We now have heard their arguments and can constructively and actively oppose the anti-fluoridation forces.

The Unit was very active during Children Dental Health Week through the media of newspaper, radio, and television. During the state meeting, members of the Unit participated in the table clinics and took the responsibility to see that the lectures on children's dentistry were well attended.

The D. C. Unit reports a membership to date of 67. At their first meeting, held at Georgetown University, members of the D. C. Dental Society, Dental Assistants and Dental Hygienists were invited to a demonstration of multiple chairside assistants by Dr. Waterman. A film on this subject was also shown.

The pamphlet "Pointers for Parents" was distributed to members of the Unit for use in their offices. This was to test its effectiveness in helping parents prepare their children for the first visit to the dental office.

Another meeting was a symposium on the "Practical Approach to Caries Control".

The final meeting was on the topic of sedation and was presented by Dr. Jason Lewis of Virginia.

It can be readily seen from this report that all of the Units in this jurisdiction are extremely active in promoting dentistry for children in their own manner and by their own methods which fit the needs of that particular Unit. It is gratifying to learn of the stability of the membership of each Unit. The variety of the programs selected for presentation makes for better dentistry for children by keeping the parents, the community, and the dentists well informed.

It has been my pleasure to present to the American Society of Dentistry for Children the activities of the Rhode Island, Connecticut, Michigan, Massachusetts, and D. C. Units in the hope that some of their ideas may be adapted by other Units to further the cause of Dentistry for Children and to show that they are progressing soundly and in a democratic manner.

Respectfully submitted,
FREDERIC R. SHIERE
Boston, Mass.

Membership Chairman
American Society of Dentistry for Children

The following suggestions have been effective in our Southern California Unit:

1. Theme: Make A.S.D.C. your dental youth activity.
2. Have poster illustrating theme on display at as many dental meetings as possible.
3. Give short membership drive talks at each of dental meetings. Speaker should be preferably a member of the local society.
4. Mail membership drive letters to all State Dental Association members.
5. Send membership drive letter to all recent dental school graduates.
6. Invite Dental Hygienists to become associate members.
7. Give membership drive talk to every Senior dental school class.
8. A good organization is an active organization and membership in a worthwhile organization is never a problem. A successful A.S.D.C. Unit sustains itself and grows through a program that makes the membership and others outside the membership feel that the organization is worthy of support.

Please find enclosed articles on the theme, "Make the American Society of Dentistry for Children your Youth Activity," and several membership drive letters.

Yours fraternally,
GEORGE J. HIGUE
Southern California Unit

MAKE THE AMERICAN SOCIETY OF DENTISTRY YOUR YOUTH ACTIVITY

We just can't help being very conscious of youth activities during the present time. Youth activities are constantly being brought to our attention through organizations such as service clubs, churches, Boy Scouts, Y.M.C.A., and many others. And most of us participate or contribute in some manner or other to some of these activities. Let's change our trend of thought from youth activities as such to the basis for having so much emphasis placed upon youth activities. In other words, why do we build a recreation center, or have a youth organization such as the Boy Scouts? Actually, what we are doing in supporting any youth activity program is simply this. We are providing a facility so children may develop healthier bodies and minds and better be prepared to assume responsibility associated with childhood, early adult, and adult life. Philanthropically and selfishly we could seek no finer motivation in support of any activity.

Let's again shift our thoughts from youth activities in general, and the purpose for having these activities, to dentistry for children specifically. Dentistry for children is a youth activity. Dentistry for children predisposes to better physical and mental health in children. As a practical illustration we could refer to the rehabilitation of personality and the restoration of function through the correction of dento-facial deformities in a child. Another example could be the restoration of esthetics and function through operative, prosthetic, and other dental therapy. Preventive dentistry could be a third and most important example predisposing to better general health. Yes, dentistry for children, like all youth activities, has the same end in view, better general health.

Let's shift our attention from children's dentistry as a youth activity to the problem of dental health as a whole. We all agree that preventive dentistry is the most important phase of our dental health program. Restorative dentistry demands can never be filled by the dental profession because of the magnitude of the problem. We realize that any program in preventive dentistry to be effective to a maximum degree must start with children. The adult requires restorative dentistry to too great an extent and therefore a program of preventive dentistry can only be partially effective if started with the adult. So if we're sincere in our program of dental health, we must accept the important status of preventive dentistry, and realize that a program of preventive dentistry in order to be successful to a maximum degree must start with children.

There are actually two good reasons why

every dentist should belong to the American Society of Dentistry for Children. First, the American Society of Dentistry for Children is a Youth Activity. Most of us support in some manner youth activities outside the field of dentistry. Doesn't it seem logical that we should participate in this youth activity right here in the dental profession? Secondly, preventive dentistry in order to be maximally effective must by necessity start with children. So philanthropically as a youth activity, and from a practical standpoint in preventive dentistry, the American Society of Dentistry for Children merits your support.

The American Society of Dentistry for Children is an organization composed of dentists in general practice and all of the various specialties in dentistry, along with others in related dental fields. The purpose of the organization is to provide information on all phases of dentistry for children, not only to the profession but to the general public as well. Such a program philanthropically and from a practical standpoint merits your support and requires participation by a greater number of dentists in order to be maximally effective.

Join the American Society of Dentistry for Children. Make the American Society of Dentistry for Children your youth activity. Do your part in shouldering responsibility in this program of preventive dentistry. Help prepare today's children for leadership tomorrow.

GEORGE J. HIGUE, D.D.S.

PROSPECTIVE MEMBER LETTER

Dear Doctor:

Your attention is constantly aroused by youth activities through Service Clubs, Churches, Boy Scouts, Y.M.C.A. and the Schools. You participate and contribute in some manner to these activities which help children enjoy better health and happiness.

The American Society of Dentistry for Children is a youth activity within your own profession where you can more directly aid in providing better health and happiness to children.

The Southern California Unit of the American Society of Dentistry for Children has made very commendable progress in advancing knowledge on dentistry for children to the profession and the public.

To be specific, we invite and urge you to become an active member of this organization. The dues are $15.00 annually which covers your membership in both the State and National groups, and a year's subscription to the quarterly Journal of Dentistry for Children. This journal, together with the local monthly meetings, will aid you in solving some of your problems in your office.

If you are a member of the A.D.A. you are eligible for membership whether you are in general practice or limited to any one of the specialties in dentistry.

Make the American Society of Dentistry for Children *your* youth activity by investing in a membership which will bring you great dividends. Please mail your check today for $15.00 to our Secretary, Dr. Elwood Laine, 127 North Madison Avenue, Pasadena 4, California.

Sincerely yours,

P. S. For the graduate from dental school in 1951, the total dues for 1952 are $5.00.

PROSPECTIVE MEMBER LETTER

Dear Dr. Smith:

Have you ever considered joining the Southern California Branch of the American Society of Dentistry for Children? Perhaps you have. Nearly all of us have considered joining each of the local dental societies at some time or other. The information below may help give you a clearer concept of this organization:

1. The American Society of Dentistry for Children is composed chiefly of general practitioners with a minority of members representing the specialty fields.
2. This organization meets eight times a year providing entertaining and scientifically interesting programs. Outstanding authorities in the various phases of children's dentistry give their whole hearted support in this worthwhile cause.
3. Some of the advantages of membership are:
   a. Receiving instruction and keeping current on recent developments and techniques in dentistry for children.
   b. Receiving the Journal of the American Society of Dentistry for Children.
   c. Being able to participate in an effective program of preventive dentistry starting with children.
   d. Attaining a good foundation in children's dentistry contributing to a successful practice.
   e. Improving public relations through a greater knowledge of dentistry for children.

All of us are aware that the children of today will be the leaders of tomorrow. A sound concept of professional ethics demands that we do our part in maintaining the dental health of American youth. Why not join in this worth while project by becoming active in the Southern California Branch of the American Society of Dentistry for Children?

Yours fraternally,

OLD MEMBER LETTER

Dear Member:

Our organization must either progress or fall by the wayside. No organization can remain at a standstill. Your cooperation in renewing your membership is very important. However, in addition members are requested to contact five non-member friends, telling them about our fine organization, our meetings, etc. It is felt that many prospective members would join our society at the suggestion of a member friend. May I count on you to do your part?

If you haven't already done so, renew your membership. Also contact your friends in the profession, inviting them to join in a very worthwhile cause of preparing today's children to become tomorrow's leaders.

Fraternally yours,

MEMBERSHIP AND PROGRAM COMMITTEE

Every dental society which feels that it is filling a professional need is aware of the comparatively small numbers which it reaches and seeks the answer to the question of how to keep the members it has, and provide good programs for them, as well as how to increase its membership.

Last year the problem of membership was taken up at the meeting of the New York State Society of Dentistry for Children, with particular reference to the relatively small number of men who are interested in post-graduate refresher courses in pedodontics.

During the past year, following the recommendations of the Executive Council of the New York State Society of Dentistry for Children, the Membership Committee has been fostering the establishment and helping to guide the progress of local Units and groups. The Metropolitan Unit of the Society (covering the area of New York City and its environs) was formed last June as a pilot, experimental organization whose methods, if successful, can be adopted by other groups throughout the State.

The data about the Metropolitan Unit which follows, including the conclusions of the Evaluation Meeting it held at the end of its year's work, are presented because they have a bearing on other programs throughout the State. The program was determined by the wishes of the members as ascertained by means of a questionnaire.

MEETINGS HELD:

November 7, 1953—"Pulpotomy and Pulp Capping"; "The Economics of Dentistry for Children". Given by means of table clinics, an essayist, and a discussion.

January 30, 1953—"Factors in Occlusion"; "Anaesthesia in Dentistry for Children". Presented by means of an essayist, table clinics, and a group discussion.

March 20, 1953—A meeting and Problem Clinic on Dentistry for Children; Essay on: "Diagnosis and Treatment Planning in Dentistry for Children"; and a Problem Panel to which dentists brought their interesting, unusual and puzzling cases.

May 8, 1953—An evaluation meeting on "What Scientific Programs Does the Dentist Want this Society to Provide?" Guest lecturers, who came from out-of-town and donated their services to our program were: Dr. Harold Berk (Tufts), Dr. M. Michael Cohen (Tufts), Dr. George W. Teuscher (Northwestern).

The following study groups were held and some were well attended:

First District: "Economics and Practice Management"; "Space Maintenance"; "How to Give a Table Clinic"; and "Pulpotomy".

Second District: "Space Maintenance"; "How to Give a Table Clinic".

Ninth District: "Space Maintenance".

Tenth District: "Anesthesia and Pulp Treatment".

The Metropolitan Unit collaborated with the Children's Dentistry Section of the Second District and the Section of Operative and Dentistry of the First District by inviting their members to attend the meetings and groups of the Metropolitan Unit. The Dental Journals of all the Societies of the First, Second and Tenth Districts and of the Bronx County and Midtown Societies, etc., publicized the meetings and study groups of the Metropolitan Unit.

Attendance at the meetings grew, some of the audience coming from New Jersey, Connecticut and other districts outside of the Metropolitan area. The first meeting had fifty or sixty present, the second, about seventy-five, and the third over a hundred and fifty. The fourth meeting showed a decline in attendance as it was a business and evaluation meeting, and therefore of not so much general interest.

The evaluation meeting discussed in detail the accomplishments and shortcomings of the Metropolitan Unit, and made the following recommendations which would be of interest to the entire State Society:

1. Meetings should not be made up of too many types of programs. For example, it was found that the combination of table clinics and an essayist made it necessary for the table clinics to start too early and be too hurried. It was suggested that an evening be devoted to table clinics, to be followed by a general meeting at which the clinicians could summarize what they had said and done, and answer questions and participate in general discussion. If a guest lecturer is invited, the entire evening should be devoted to his lecture and a discussion upon it. If possible, his talk should be part of a symposium, in which several points of view could be presented. Similarly an evening could be devoted to topic discussions and another to problem panel. In all these programs it was found that audience participation was very important, for the most successful meetings were those which encouraged audience participation.

The experience of the Metropolitan Unit, the Membership and Program Committee believes, will be of value to other groups in the State. This Committee has communicated with members of the Society in other localities in the State, made suggestions to them, informed them of the work of the Metropolitan Unit, and offered to help them with any information and assistance they can give.

This Committee believes that the State Society can be strengthened, its membership increased, with its members profiting more by their association with the Society, if local groups could be set up in other regions of the State adopting the good features of the Metropolitan Unit and profiting by its experience.

Copies of the questionnaire and of all the meeting notices are appended to this report.

Respectfully submitted,
M. Joel Freedman
Sidney Kronfeld

The newly formed New York City Unit of the New York State Society of Dentistry for Children is organizing its program for the coming year.

In order to prepare a program that will have the widest interest, we would like to know your preferences as to type of program and subject matter.

Will you fill out the questionnaire and return it as soon as you possibly can?

Name:———————————————
Address:———————————————
Telephone:———————————————

1. Would you be interested in listening to Table Clinics?
   Yes—— No——
   Subject matter:
   Pulp Treatment
   Space Maintenance
   Amalgam
   Castings
   Anesthesia
   Others

Name:———— *Address:*————
Telephone:————————————

1. Would you be interested in listening to Table Clinics? Yes—— No——

Pulp Treatment	Space Maintenance
Amalgam	Castings
Anesthesia	Radiography
Diagnosis & Treatment Planning	Others

2. Would you be interested in participating in group discussions with outstanding leaders to guide the discussions? Yes—— No——

Pulp Treatment	Space Maintenance
Amalgam	Castings
Anesthesia	Economics & Practice Management
Patient Training	Diagnosis & Treatment Planning
Radiography	Public Health
Caries	Others
Diet & Nutrition	

3. Would you be interested in forming a study group? No—— Yes——

Anatomy	Histology
Bacteriology	Space Maintenance
Pulp Treatment	Amalgam
Castings	Anesthesia
Patient Training	Economics & Practice Management
Radiography	Diagnosis & Treatment Planning
Caries	Public Health
Diet & Nutrition	Others

4. What subjects would you care to hear discussed by outstanding men at a regular meeting?
5. Would you care to learn how to give a table clinic Lecture? Yes—— No——
   If yes, what subjects?

Dear Doctor:

You are cordially invited to attend the first open meeting of the newly organized Metropolitan Unit of the New York Society of Dentistry for Children. The subjects of the scientific session will be: *Pulpotomy and Pulp Capping & Economics of Dentistry for Children.* Time: *November 7, 1952*—8 P.M.

Program:

8 P.M. Business meeting
8:30 P.M. Scientific session:
Subject: Pulpotomy and Pulp Capping
Speaker: Dr. Harold Berk, Assistant Professor of Oral Pediatrics, Tufts College Dental School. Diplomate, American Board of Pedodontics.
Discussor: Dr. Joseph Obst, Director of Dentistry, Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn, N. Y.

7:30 P.M. Table Clinics

Pulpotomy

1. Dr. Gerhard Schmelz, Supervisor, Dental Staff of Guggenheim Dental Clinic.
2. Dr. Melvin Bellet, Instructor, New York University College of Dentistry.

Economics

3. Group Discussion on Economics of Dentistry for Children.
   Speaker: Dr. Joseph Gary, Instructor, New York University College of Dentistry, Dept. of Pedodontics.
   Moderator: Dr. James Jay, Instructor Orthodontic Dept., Columbia University Dental School.

You may invite other members of the dental profession to attend this meeting.

THE NEW YORK STATE SOCIETY OF DENTISTRY FOR CHILDREN

Component of the American Society of Dentistry for Children

METROPOLITAN UNIT

Program of the January Meeting

Topic: "Factors in Occlusion"

Essayist: Dr. M. Michael Cohen, Instructor in Oral Pediatrics, Tufts

College, Medical School Department of Pediatrics; Instructor in Oral Pediatrics, Tufts College, Dental School.

Discussor: Dr. William Biederman, Assistant Professor in Orthodontic's, N. Y. U. College of Dentistry.

Pre-meeting Program

Discussion Group: "Anesthesia in Dentistry for Children"

Leader: Dr. Stanley Spiro, Dental Staff at Triboro and Hillside Hospital; Anesthesia Staff, Queens General Hospital and Jewish Sanitarium for Chronic Diseases.

Moderator: Dr. Isadore Samuels, Instructor in Pedodontics, N.Y.U. College of Dentistry.

Table Clinics:

1. "Preventive Orthodontics", Dr. Edward E. Teltsch, Clinical Assistant in Orthodontic's, Columbia University School of Dental and Oral Surgery.
2. "Space Maintenance", Dr. Joseph Keller, Instructor in Pedodontics, N.Y.U. College of Dentistry.

METROPOLITAN UNIT MEETING

Friday, March 20, 1953

Essayist: Dr. George W. Teuscher, Professor of Pedodontics, Northwestern University, Chicago, Ill.

Topic: Diagnosis & Treatment Planning in Dentistry for Children

Discussion Panel of Problem and Unusual Cases: Panel of Experts

Moderator: Dr. Harold K. Addelston, Chairman, Dept. of Pedodontics, N.Y.U.

Dr. Sidney Kohn, Diplomate *and* Member American Board of Pedodontics

Dr. Joseph Kauffmann, Editor—Bulletin—N. Y. State Society of Dentistry for Children

Dr. J. A. Salzmann, Editor—N. Y. Journal of Dentistry; Director Orthodontic Clinic, Mt. Sinai Hospital, N. Y.

Dr. Daniel Tobin, Dental Director, Guggenheim Clinic

Members are invited to present actual cases in their practice which are unusual, interesting, or are problems. X-rays, models, and case histories should be brought with them to the meeting or sent to the secretary before the meeting.

DR. M. JOEL FREEDMAN

A.S.D.C. UNITS

1. Alabama
2. Arizona—Chartered 1953
3. Arkansas
4. Northern California
5. Southern California
6. Colorado
7. Connecticut
8. Washington, D. C.
9. Florida—Chartered 1953
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13. Maine—Chartered 1953
14. Maryland
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13. Oklahoma
14. South Carolina
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17. Vermont
18. Wyoming—No members now

Restoration of Fractured Anterior Teeth with Steel Crowns

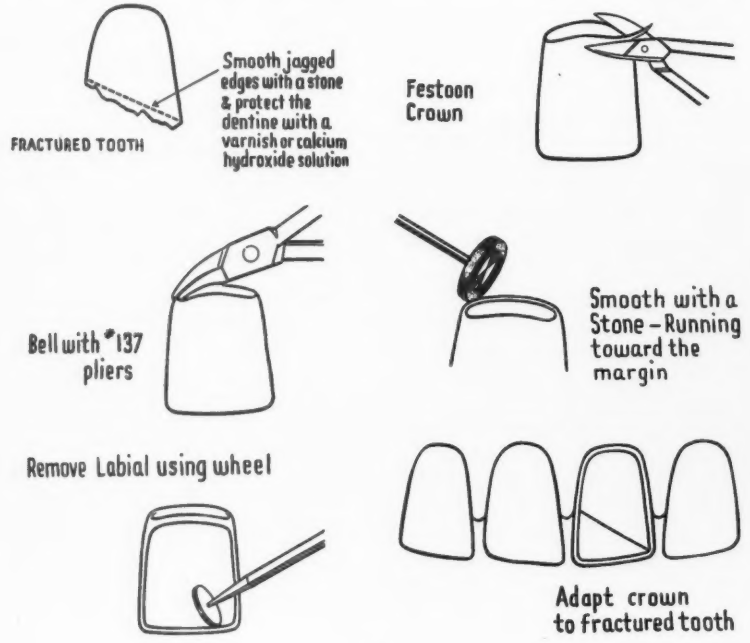
WILLIAM P. HUMPHREY, D.D.S.
Denver, Colorado

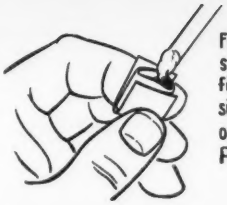
FRANCIS J. FLEEGE, D.D.S.
Milwaukee, Wisconsin

Editor's note:

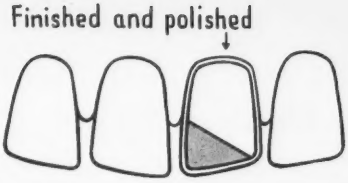
We first saw this technic demonstrated by Bill Humphrey at Louisville, Kentucky during the Academy of Pedodontics meeting and were impressed by its simplicity. Francis Fleege, who directs the Department of Pedodontics at Marquette University, furnished us with the slides of an actual case on which he had used the procedure with a nice result. We're grateful to these two men for their spirit of cooperation which enabled us to bring you the technic along with its practical application.

A.E.S.

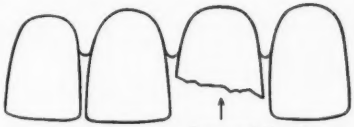

FRACTURED TOOTH
Smooth jagged edges with a stone & protect the dentine with a varnish or calcium hydroxide solution
Festoon Crown
Bell with #137 pliers
Smooth with a Stone – Running toward the margin
Remove Labial using wheel
Adapt crown to fractured tooth



Fold celluloid strip over crown fill crown with silicate cement or resin. Place on tooth.

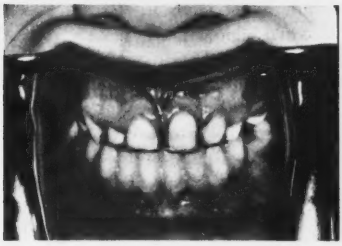


Optional Technic



Place Crown over Fractured Tooth and Cement

An Actual Case



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